CHEVROLET

TRUCK OPERATORS MANUAL

1955

OPERATOR'S MANUAL

For 1955

Chevrolet Light, Medium and Heavy Duty Trucks

(SECOND SERIES)

SECOND EDITION

INTRODUCTION

This operator's and owner's manual has been prepared to furnish information pertaining to the driving, care and maintenance of Chevrolet trucks as well as to provide technical data that may be of value or interest to truck owners.

The subject index at the right is a ready reference to the key subjects and will assist in finding any subject covered in the booklet.

All information, illustrations and specifications contained in this literature are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time without notice.

Chevrolet Motor Division
General Motors Corporation
Detroit 2, Michigan

SUBJECT INDEX

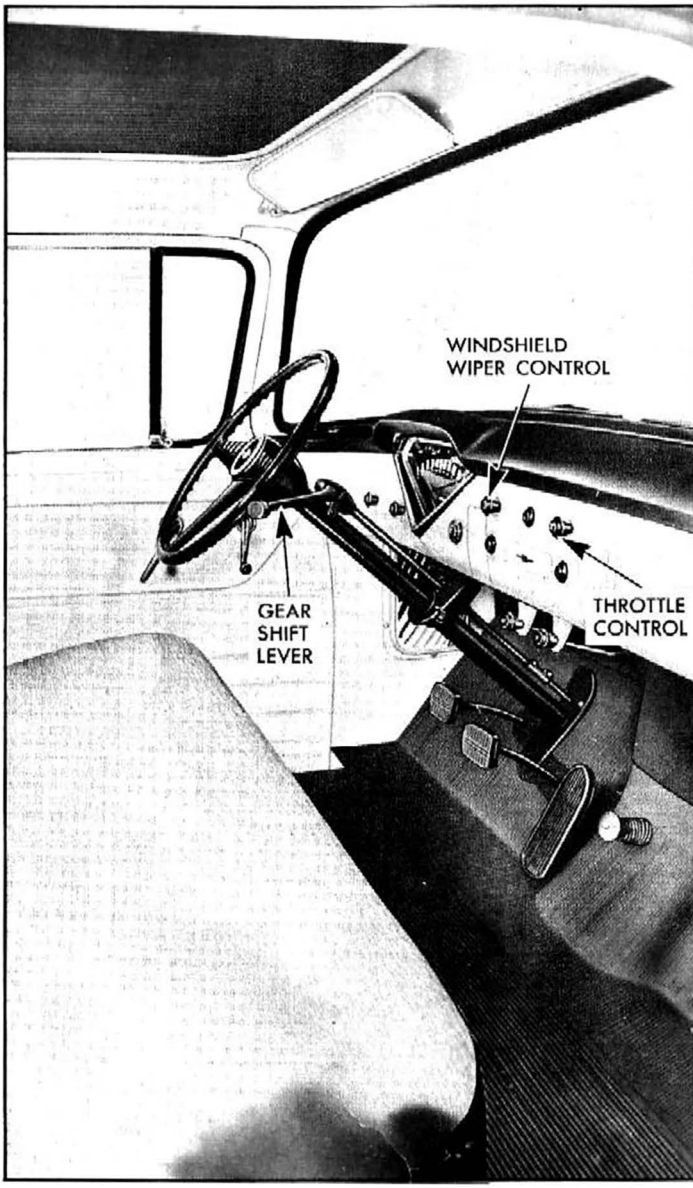

Fig. 1—Instruments and Controls—½ and ¾ Ton

CHAPTER I

DRIVER'S OPERATING INFORMATION

BREAKING-IN PERIOD

The crankcase of the engine in this vehicle, as received, is filled with a light body "breaking-in" oil. Use this oil only during the breaking-in schedule shown below. It should not be used after completion of the breaking-in schedule.

Check the oil frequently during the first 500 miles and at the end of 500 miles, drain the crankcase—while hot—and refill using the grade of oil recommended in Lubrication section.

To properly break-in the moving parts of the engine do not drive faster than:

35 miles per hour for the first 100 miles
45 miles per hour for the next 200 miles
50 miles per hour for the next 200 miles

Continuous driving at high speeds should not be attempted until the vehicle has been driven 2000 miles.

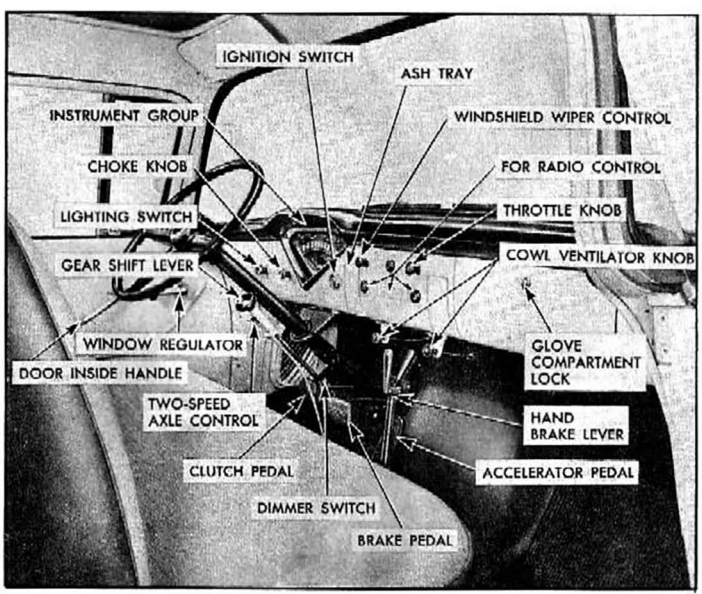

Fig. 2—Instruments and Controls 1, 1½ and 2 Ton

INSTRUMENTS AND CONTROLS

The type, location and operation of instruments and controls vary on different models and makes of vehicles; therefore, regardless of the experience an owner or driver may have had, it is advisable to familiarize one's self with the instrument and controls and their use before driving this new truck. The locations of various instruments and controls are shown in Figures 1, 2 and 22.

Instrument Group

The instruments are grouped in a single triangular cluster on the instrument panel directly in front of the steering wheel (fig. 3).

Gasoline Gauge. The electrically operated gasoline gauge is at the upper right side of the instrument cluster (fig. 3). It is wired through the ignition switch and, therefore, only indicates the amount of fuel in the tank when the ignition switch is turned on.

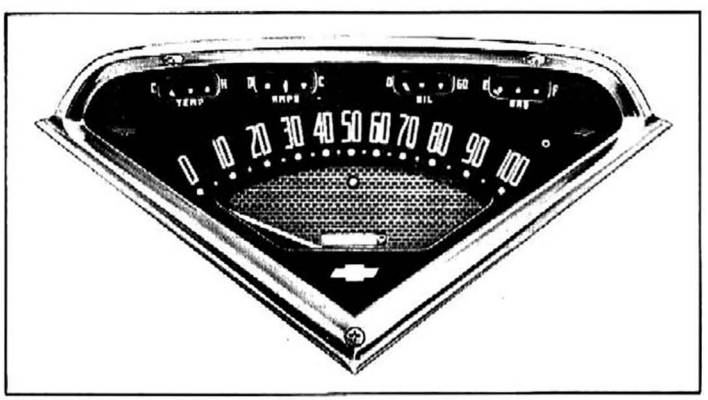

Fig. 3—Instrument Group

Temperature Gauge. The water temperature gauge is at the upper left side of the instrument cluster (fig. 3), with the operating bulb located in the water jacket at the left rear of the cylinder head. Normally, when the engine is thoroughly warmed up, the needle will register near the center of the gauge. The driver should watch this instrument closely, as a quick rise in temperature usually indicates trouble. Should the

needle move all the way to the right the engine should be stopped and a check made for cause of overheating.

NOTE: Do not remove the radiator cap when engine is excessively hot, do not put water in an overheated engine, and do not run engine when indicator is above "H."

Ammeter (Battery Indicator). The Ammeter is to the left of center near the top of the cluster (fig. 3) and indicates the flow of current to and from the battery, except the current taken by the starting motor. Should the ammeter show discharge when the truck is being driven at medium speed, trouble is indicated in the charging system and the battery will soon become discharged.

Oil Pressure Gauge. This instrument is to the right of center near the top of the instrument cluster (fig. 3), and indicates whether or not the oil pump is working, but does not indicate the amount of oil in the crankcase.

A low reading is normal at idling speeds with a warm engine and light oil; however, as the engine speed is increased the hand should register near the center of the gauge. In cold weather (especially with heavy oil) the hand may move over to the "60" mark at comparatively low engine speeds.

NOTE: Do not accelerate the engine excessively until the oil is sufficiently warm to permit a lower pressure. If the gauge does not show any pressure, stop the engine immediately and determine the cause.

Speedometer. The speedometer is located in the instrument cluster and the hand moves across the dial indicating the speed of the vehicle in miles-per-hour.

Odometer. The group of figures visible through the opening just above the Chevrolet emblem on the instrument cluster is the odometer and indicates the total mileage the truck has been driven.

Headlight Beam Indicator. A red light in the recessed area below the 50 mark on the speedometer lights when the headlights are on the upper beam.

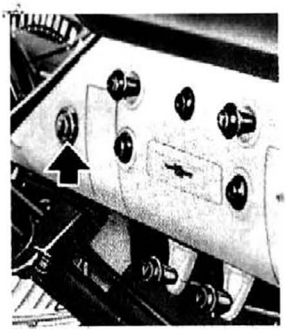

Fig. 4 Ignition Switch

Switches

Ignition Switch. The ignition switch is located near the bottom of the instrument panel slightly below and to the right of the instrument cluster (fig. 4), and is connected in the low ignition circuit between the battery and the coil. This switch is used to make or break the ignition circuit when starting or stopping the engine.

The key is turned clockwise to turn the switch on and counterclockwise to turn the switch off.

On vehicles with ignition key starting the key is turned clockwise from the "ON" position to engage the starter, and counterclockwise to lock.

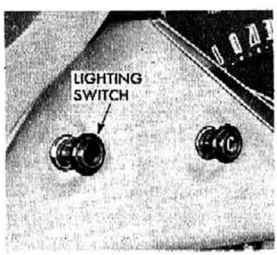

Fig. 5—Lighting Switch

Lighting Switch. The lighting switch, located to the left of the instrument group (fig. 5), controls the instrument lamps, headlamps, parking lamps, tail lamp and interior lamp. When this switch is pulled out to the first "on" position the instrument lamps, parking lamps and tail lamp are lighted. When the switch is pulled out to the last position the headlamps replace the parking lamps. A dual circuit breaker is incorporated in the main light switch to isolate the headlight circuit for greater safety. If a short should develop in either the headlight circuit or in the wiring to any other lights, one or the other of the two circuit breakers will relieve the load on the electrical system, and at the same time, lights on the unaffected circuit will continue to function.

Dimmer Switch. The dimmer switch located on the toe-board to the left of the clutch pedal is used to switch the headlamp beam from "high" to "low" or "low" to "high." Each time the switch is depressed the light beam is reversed. A headlamp beam indicator is located below the 50 mark on the instrument cluster. When the lights are on upper beam a red light is visible through the indicator opening. Avoid use of upper beam

when meeting other vehicles on the highway or in city traffic.

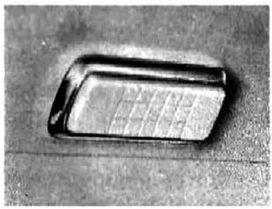

Fig. 6—Dome Lamp

Dome Lamp. The dome lamp located directly above the rear window of the cab is controlled at the main lighting switch. Pull knob out to first position and turn all the way counterclockwise beyond the point where a slight resistance to turning is encountered.

Horn Button. The horn button is conveniently located at the center of the steering wheel.

Controls

Choke Control. The carburetor choke control knob on all models except those equipped with Hydra-Matic transmission is located to the left of and below the instrument cluster on the instrument panel (fig. 7). The purpose of this control is to close or partly close the carburetor choke valve. This restricts the air intake and produces a richer fuel mixture for starting, while at the same time opening the throttle by means of a fast idle link on the carburetor except on those models equipped with an updraft carburetor. All models equipped with Hydra-Matic transmission except Forward Control are provided with an automatic choke.

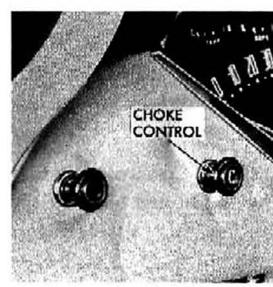

Fig. 7—Choke Control

When the engine is warm and the weather is warm, it should not be necessary to use the choke when starting the engine. When it is necessary to use the choke for starting, it should be pushed part way in as soon as the engine starts and all the way in as soon as the engine will run smoothly without its use.

CAUTION: Excessive use of the choke will provide a fuel mixture too rich to burn. Some of this unburned fuel will leak past the pistons and dilute the engine oil and result in improper lubrication, excessive engine wear and poor performance.

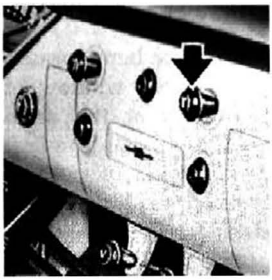

Fig. 8—Throttle Control

Hand Throttle Control. The throttle control knob on all models except those equipped with Hydra-Matic transmission is located to the right of center of the instrument panel (fig. 8). Pulling out on the control knob opens the carburetor throttle to provide a uniform engine speed above the idle setting. It is generally advisable to pull the hand throttle control out slightly when starting the engine, especially if the engine has a tendency to stall a time or two after starting. With exception of Forward Control models, no hand throttle is provided on models equipped with Hydra-Matic transmission.

Cigarette Lighter. The cigarette lighter on Suburban Pick-up models is located to the left of the hand throttle control and is operated by pushing in. When heated it automatically clicks out for use.

Starter Control. A starter pedal is located near the center of the toe board to the right of the accelerator pedal on most truck models (fig. 9). Ignition key starting is provided on Forward Control, L.C.F. and Hydra-Matic equipped models. Depressing this pedal or turning the ignition key to "START" engages the starting motor pinion with the teeth in the engine flywheel and closes the starter switch to provide an electrical circuit between the battery and starting motor, thereby cranking the engine. The starting motor draws considerable current from the battery, therefore, it should not be operated for more than 15 seconds at a time. If the engine does not start, locate the cause and correct it before the battery is run down.

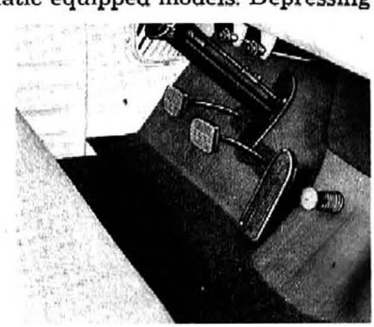

Fig. 9—Control Pedals

CAUTION: The starter pedal or key must be released as soon as the engine starts and should never be depressed when the engine is running or serious damage may result.

Accelerator Pedal. The accelerator pedal, located to the left of the starter pedal (fig. 9), is used to open and close the carburetor throttle valve.

Clutch Pedal. On models equipped with 3- and 4-speed transmissions the clutch pedal is conveniently located for use by the driver's left foot (fig. 9). It is used to engage and disengage the clutch, thereby connecting the engine to or disconnecting it from the transmission and drive line to rear wheels.

NOTE: Never drive with the foot resting on the clutch pedal as this produces undue wear on the throwout bearing and other parts.

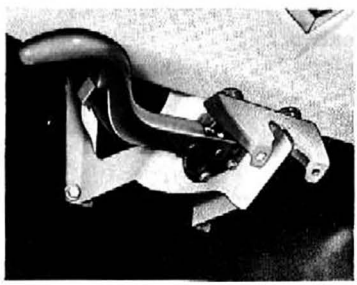

Fig. 10—Parking Brake

Brake Pedal. The brake pedal is located to the right of clutch pedal (fig. 9). Depressing this pedal applies the hydraulic service brakes at all four wheels in proportion to the pressure applied on the pedal.

Parking Brake. On all models equipped with 4-speed transmission, the parking brake is applied by a hand type lever extending up through the floor. With all other transmissions the parking brake is applied by a trigger type lever mounted on the steering column support under the instrument panel.

The parking brake lever is connected by rod and cables to the rear wheel brakes on some models and to a propeller shaft brake on other models. The propeller shaft brake is either a band-type or shoe-type depending on the model and transmission option.

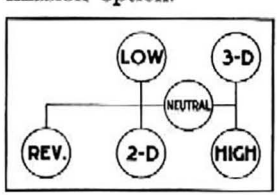

Fig. 11—Four Speed Transmission Shifting Diagram

Gearshift Lever (4-speed Synchromesh Transmission) extends to the left and back from transmission cover dome at center of floor (fig. 2). This lever is used to shift the transmission gears to the desired position. Figure 11 shows the lever knob positions when the transmission is in neutral, reverse and the four forward speeds.

To shift into reverse, disengage the clutch, move the lever to the left against the spring tension as far as it will go and pull it back into reverse position.

Gearshift Lever (3-speed Synchro-mesh Transmission). Gearshift control on trucks with 3-speed transmission is located on the steering column (fig. 1).

Figure 12 shows the gearshift pattern in neutral, reverse and three forward speeds.

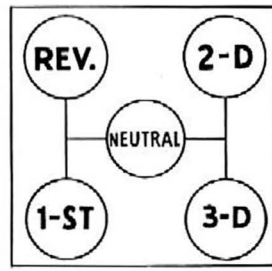

Fig. 12—Three-Speed Transmission Shifting Diagram

Shift Control Lever (Hydra-Matic Transmission). The shift control lever, located on the steering column, is used to select neutral, one of three forward speed ranges, or reverse. These positions are plainly marked on the indicator segment and are described in further details on pages 17-20.

Cowl Ventilator Control Knobs. Two knobs located below the instrument panel to the right of the steering column (figs. 1 and 2) are used to open and close the dampers in the ventilating system. Pull knob out to admit outside air, push knob in to shut off air.

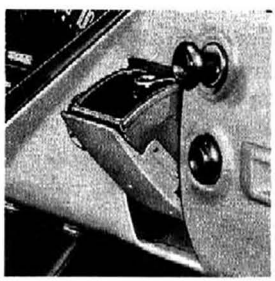

Fig. 13—Ash Tray

Ash Tray. A convenient tilt type ash tray is located in the instrument panel to the right of the instrument cluster (fig. 13). The tray is opened by pushing it forward at the bottom. To remove the ash tray for emptying, depress the circular snuffer at top of tray.

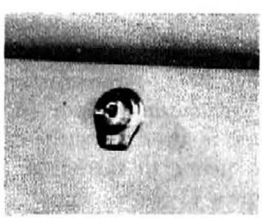

Fig. 14—Package Compartment Lock

Instrument Panel Compartment Lock. The door to the convenient package compartment at the right end of instrument panel is controlled by a lock on the compartment door (fig. 14). When the lock is unlocked, depressing the lock cylinder releases

the latch and the door opens. When the lock is locked the cylinder cannot be depressed. The key used for the door lock and ignition switch is used to lock and unlock the package compartment.

Keys. Two identical (octagonal head) keys are furnished with each truck. These keys are used for locking and unlocking the right door, the package compartment and ignition. The key number is stamped on a "knockout" plug in each key (fig. 15). The dealer and the owner should make a record of this number so that the key can be easily replaced in case it is lost, and then the "knockout" plug should be removed so that unauthorized persons cannot obtain the key number and have a duplicate made.

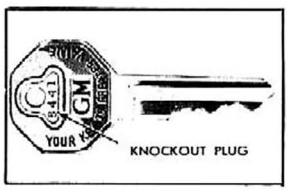

Fig. 15—Key

Door Locks. Chevrolet trucks are equipped with push-button theft-resisting door locks which provide a means of locking the cab when the truck is to be left unattended and a means of locking it from the inside.


Fig. 16—Door Handle and Push-button Lock

The door lock cylinder is located in the push button in the right door handle (fig. 16). In the unlocked position, the key slot is vertical, and, when the push-button is locked, the slot is horizontal. In this horizontal position, the push-button cannot be depressed. The door is locked from outside by inserting a key in the push-button and turning it 90° so that key is horizontal. It remains horizontal after the key is removed.

To lock either door from the inside it is only necessary to move the inside remote control handle forward, (fig. 17). Pulling the inside handle to the rear unlocks the door even when it has been locked with a key.

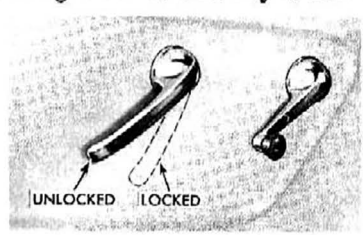

Fig. 17—Door Remote Control and Window Regulator

Window Regulators. The door windows are opened and closed by turning the window regulator handles located near the front

upper corner of each door inner panel (fig. 17).

Door Ventipane. Operated directly by a turn down catch handle. Spring loaded friction device in the ventilator lower pivot holds the ventilator open to any position selected. Rain deflectors are used over the ventipane.

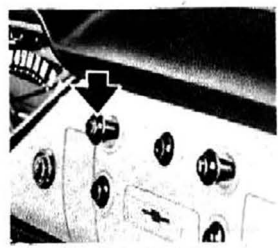

Fig. 18—Windshield Wiper Control Knob

Windshield Wiper. The windshield wiper motor is mounted under the instrument panel and is vacuum operated from the engine. The control knob (fig. 18) located above and to the right of the ash tray on the instrument panel is used to regulate the wiper. Rotating the knob clockwise turns the wiper on and rotating it counterclockwise decreases wiper speed or turns it off completely.

Rear View Mirror. An adjustable rear view mirror is mounted on the left side of cowl in a position so that the driver can get a clear vision along the left side of truck by looking at the mirror through the left door window.

Fig. 19—Seat Adjuster

Seat Adjuster. The entire seat assembly can be moved forward or back to obtain the most comfortable position for the driver. As the seat is moved forward it raises and tips forward and as it is moved back it is lowered to accommodate a tall person.

Press down on the lever (fig. 19) to release the seat adjuster lock so that the seat assembly can be moved forward or back as desired. Two coil springs assist in moving the seat forward.

Hood Lock and Safety Catch. The hood is of the "alligator jaw" type and is held closed by a lock at the front. This lock can be released by reaching in below the upper grille bar in line with the left end of name plate and pull the lever forward (fig. 20), the hood may then be lifted.

Fig. 20—Hood Lock Release

Double acting hood springs assist in the opening operation.

To close the hood, lower it to the safety latch position and then push down on nose of hood to lock it. When the truck is in motion the cam-type lock permits only downward movement of the hood with a wedging action that provides positive locking from the intermediate to the completely closed positions.

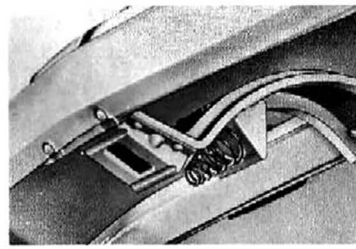

Fig. 21—Hood Locking Plate and Pop-up Spring

On low cab-forward models, a similar cam-type lock mechanism is located at each front corner, with only one having a safety latch.

¾ TON FORWARD CONTROL UNITS

The Forward Control model shown in Figure 22 is representative of units built by different body manufacturers. Operation of all instruments, gauges and control knobs are the same as outlined for the conventional truck models with ignition key starter control.

Fig. 22—¾ Ton Forward Control

PRE-STARTING INSPECTION

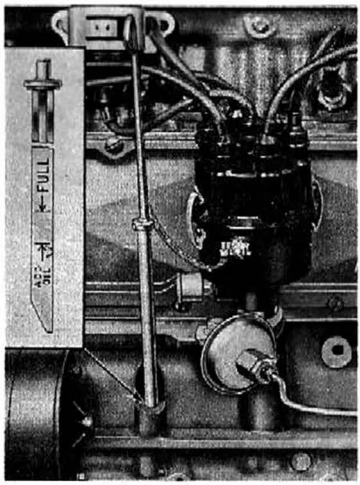

Fig. 23—Oil Gauge Rod—6 Cyl. Engine

The following inspections are not necessary each time the vehicle is started providing the driver has recently driven the vehicle and is certain that attention is not required.

1. Raise the hood, remove the oil gauge rod (fig. 23), wipe oil from rod with clean cloth and replace. Remove gauge rod and note level of oil. If down to the "add oil" mark, oil should be added. See "Lubrication Instructions." Install oil gauge rod.

2. Remove radiator cap and check the level of coolant. If coolant is down a quart or more, water or anti-freeze should be added.

3. Check to make sure the tires are properly inflated. Underinflated tires wear rapidly and are subject to road damage.

4. Rear window, windshield, headlights, tail lamps and reflectors should be cleaned to provide clear vision and good lights.

OPERATING INSTRUCTIONS FOR MODELS EQUIPPED WITH 3- AND 4-SPEED TRANSMISSIONS

Starting the Engine

1. Place ignition key in switch and turn key to vertical position to turn on ignition.

2. Pull choke knob out part or all the way depending on climatic conditions to provide an engine speed just above idle. If the engine is warm or in summer weather it is not generally necessary to use the choke at all. In extremely cold weather the choke should be pulled all the way out.

3. Make sure the transmission shift lever is in neutral. Depress the clutch pedal to relieve the load in the transmission.

4. Step on starter pedal, or turn key clockwise, to crank engine. **Release starter pedal or key as soon as engine starts.** If engine does not start in 5 to 10 seconds, release pedal or key and check to see that the above operations have been performed correctly.

5. As soon as engine starts, push choke knob in part way and adjust throttle for smooth idle.

6. Note oil gauge and ammeter readings. Ammeter should show some charge unless engine is idling slowly. Oil gauge should show some pressure. In unusually cold weather the oil gauge needle may go over nearly to 60. If so, run the engine just above idling speed until the indicator hand drops to around the center of the gauge before driving vehicle. The choke knob should be pushed in all the way as soon as the engine is sufficiently warmed up.

Shifting Two-Speed Rear Axle

The vacuum shift makes this operation comparatively simple as it is unnecessary to declutch while shifting. The control for the vacuum shift is located on the gearshift lever (fig. 24). Operating this control also shifts the speedometer adapter to maintain reasonably accurate speedometer and odometer reading regardless of the axle ratio used.

To shift from low speed to high speed, move control up to high speed position, release accelerator, pause a second to allow engine speed to drop down, then again step down on the accelerator.

To shift from high speed to low speed, move control down to low speed position, release accelerator and again step down on accelerator.

Operating instructions are shown on a "Decal" on the upper surface of the instrument panel.

Fig. 24—Two-Speed Axle Shift Control

OPERATING INSTRUCTIONS FOR MODELS EQUIPPED WITH OVERDRIVE TRANSMISSION

Overdrive optional equipment used with Chevrolet Synchro-Mesh transmission provides an automatic fourth or cruising gear in which engine speed is reduced more than 22% for the same road speed with the conventional transmission.

When vehicle is in motion conventional driving with overdrive-equipped vehicle may be obtained by pressing accelerator pedal to the floor and, at the same time pulling overdrive control handle all the way out. Handle must be pushed in to make overdrive operation available, and this can be done at any time.

Starting the Engine is accomplished in the same manner as with conventional transmission (see page 14).

Use of Clutch Pedal—When starting from a standstill, or when bringing the vehicle to a stop, or when speeds are above approximately 30 miles per hour the clutch must be released for shifting gears. At speeds below approximately 26 miles per hour the free-wheeling action of the overdrive unit makes it possible to do all gear shifting without depressing the clutch pedal.

At any speed above 30 miles per hour the transmission will automatically shift into overdrive if the accelerator pedal is momentarily released. When speed drops below 26 miles per hour the overdrive will automatically disengage.

When overdrive is engaged and gear shift lever is in either second or third position, extra power for rapid acceleration or hill climbing is supplied by depressing the accelerator pedal to the floor.

Parking—When the overdrive control handle is pushed in, engine compression for "in gear" parking will be effective only in the reverse position. To park in any other gear the control handle should be pulled out. Always apply the hand brake when parking a vehicle.

Push Start—Should it ever be necessary to start the engine by pushing or towing the vehicle, pull overdrive control handle all the way out and place shift lever in neutral until vehicle reaches 15 mph. Depress clutch, turn key starter to ON and place shift lever in THIRD speed. Engage clutch gradually to start engine. After the engine starts, the overdrive control handle may be pushed in at any time.

OPERATING INSTRUCTIONS FOR MODELS EQUIPPED WITH AUTOMATIC TRANSMISSION

Shift Control Lever

The shift lever located just below the steering wheel can be moved to select neutral, one of three forward speed ranges, or reverse. These positions, which are plainly marked on the indicator segment (fig. 25), are utilized as follows:

Fig. 25—Hydra-Matic Indicator—Neutral Position

N—Neutral (and starting)

1-4—Normal forward driving

1-3—For faster acceleration and in congested traffic

1-2—For controlled power

R—Reverse (and parking)

Starting Engine

1. Place Hydra-Matic control lever in "N" (fig. 25). Starter will not operate with lever in any other position.

2. Place ignition key in switch and turn key clockwise to turn on ignition.

3. a. On all models except Forward Control, depress accelerator pedal part way and hold to set automatic choke. When starting a warm or hot engine, hold accelerator pedal down halfway while engaging starter. DO NOT PUMP ACCELERATOR PEDAL AT ANY TIME.

b. On Forward Control models, pull choke knob out part way or all the way, depending on climatic conditions, to provide an engine speed just above idle. If the engine is warm or in summer weather, it is not generally necessary to use the choke at all. In extremely cold weather the choke should be pulled all the way out.

4. Engage starter. Release starter as soon as engine starts. Avoid racing engine during warm-up.

NOTE: If engine does not start in five to ten seconds release starter and check to see that operations have been performed correctly. A possible cause may be flooding. On models with automatic choke, press accelerator down SLOWLY to floor and hold it there while engaging starter. The automatic choke is inoperative in this position. See page 21 for procedure to be used in case of flooding on models equipped with manual choke.

5. On Forward Control models, push choke knob in part way as soon as engine starts and adjust throttle for smooth idle.

6. Note oil gauge and ammeter readings. Ammeter should show some charge unless engine is idling slowly. Oil gauge should show some pressure. In unusally cold weather the oil gauge needle may go over nearly to 60. If so, run the engine just above idling speed until the pressure drops to around the midpoint of the gauge before driving vehicle. Refer to page 19 for procedures when pushing vehicle to start engine. On Forward Control models, the choke knob should be pushed in all the way as soon as the engine is sufficiently warmed up.

Driving with Hydra-Matic

Operating in "1-4" Range (Automatically shifts from 1st thru 4th).

The "1-4" Range (fig. 26) is used for normal forward driving, providing reduced engine speeds, and better driving comfort and fuel economy. With normal* truck speed, a needed spurt of "passing" or "pick-up" speed can be obtained by depressing the accelerator completely (past detent). The drive will then change to a lower speed for a rapid pick-up, and will return automatically to higher speed as truck speed is increased.

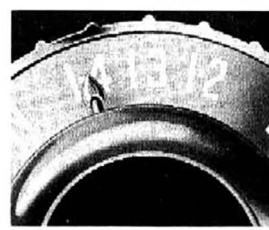

Fig. 26—Operating in "1-4" Range

Operating in "1-3" Range (Automatically shifts from 1st thru 3rd)

The "1-3" Range (fig. 27) is used for better acceleration when driving in congested traffic. This range may also be used when ascending or descending long grades. At normal* truck speed, a forced down shift to lower speed can be obtained by completely depressing accelerator pedal. Shift again to higher speed will automatically be made as truck speed increases or accelerator is released. Shift can be made from "1-4" to "1-3" at any truck speed on dry roads or from "1-3" to "1-4" at any time.

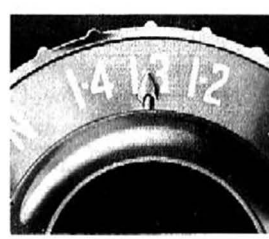

Fig. 27—Operating in "1-3" Range

* The speeds at which a forced downshift can be made in "1-4" and "1-3" ranges vary according to tire sizes and axle ratios.

Operating in "1-2" Range

The "1-2" range (fig. 28) is used for pulling through mud, sand and snow, for going up grades or to provide braking on down grades. This position should also be used to place vehicle in motion on icy roads. When in this range the ¾ and 1 Ton Models start in 1st speed while the ½ Ton Models start in 2nd speed under light and medium throttle. At a truck speed of less than 25 mph, the shift from "1-4" or "1-3" range to the "1-2" range may be made to obtain braking by first **releasing the accelerator,** then moving the lever to the "1-2" position.

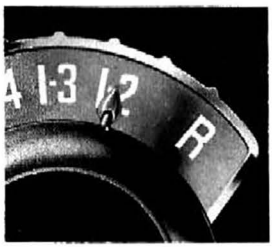

Fig. 28—Operating in "1-2" Range

CAUTION: Do not change from "1-4" or "1-3" position to "1-2" on icy or slippery roads while under way.

A forced downshift to 1st speed can be made while in "1-2" position with vehicle speed less than 5 mph. Completely depress accelerator pedal. Shift again to 2nd speed will automatically be made when vehicle speed increases or pedal is released.

Moving and Stopping

Engine should be warmed-up to operating temperature at idle speed with lever in "N" position, particularly in cold weather. With a cold engine the vehicle may tend to creep when placed into a drive position while running at fast idle. A slight application of brake will hold vehicle until motion is desired. With the lever placed into any of the forward drive positions, the vehicle will move forward when accelerator is depressed. The shift events (1st to 2nd; 2nd to 3rd; 3rd to 4th) will occur at progressively higher speeds, depending upon accelerator pressure. With slight accelerator pressure, the shifts occur at lower speeds. As accelerator pedal is depressed, shifts occur at higher speeds.

To stop the truck, release the accelerator pedal and apply brakes. Do not move the lever from range selected. When ready to move again, release brakes and depress accelerator pedal as desired.

Reversing

While it is advisable to be at a complete stop before engaging reverse, it is possible to shift into "R" (fig. 29) while vehicle is in slight (1 to 2 mph) forward motion. Avoid engaging reverse at forward speeds above 1 to 2 mph. This permits moving the lever between "R" and "1-3" or "1-4" with light accelerator pedal pressure, permitting rocking the vehicle when required to get out of mud, snow, or sand. Raise the lever when moving to reverse. When moving the lever, while raised, from reverse toward neutral, the lever will stop at the "1-4" position. This prevents unwanted "over-selecting" into neutral.

Fig. 29—Reverse Position

Standing and Parking

Under no circumstances should the control lever remain in any other position than neutral when driver leaves the vehicle with engine running. In this case, always apply parking brake.

For additional safety while parking, turn off ignition key, then move lever to reverse position. This permits engagement of transmission providing "in gear" parking. When parking on any incline in this manner, hold vehicle with brakes for a few seconds to permit engagement of transmission parts.

Push or Tow Start

If necessary to start engine by pushing or towing a short distance, set automatic choke or operate hand choke on Forward Control models as described on page 17, then move lever to "N" (Neutral) position. When vehicle speed reaches approximately 20 mph, turn on ignition switch and move lever to "1-4" position.

Towing Vehicle

Truck must be towed only with rear wheels off the ground or propeller shaft disconnected at axle pinion shaft.

If truck is towed with rear wheels on ground with propeller shaft connected, transmission will be damaged.

Coasting

Do not coast with lever in "N" (Neutral). Operating the vehicle in this manner may result in damage to the transmission.

COLD WEATHER OPERATION

Cold weather presents many problems to the motoring public; however, the Chevrolet truck will be equally dependable in cold weather if given a minimum amount of attention.

1. The cooling system must be protected against freezing by the use of anti-freeze solutions (see "Cooling System" and "Anti-Freeze"). If not protected by anti-freeze solutions, each time the vehicle is to stand any length of time, the system must be drained at the lower right corner of the radiator and the left rear corner of the cylinder block; also at the oil cooler rear pipe on Hydra-Matic equipped models with oil cooler.

2. Light oil should be used in the engine (see "Engine Lubrication").

3. The battery should be kept fully charged to provide the additional power necessary to crank a cold engine and furnish a good spark. A discharged battery will freeze in extremely cold weather which will make battery replacement necessary.

4. The carburetor, fuel pump and fuel tank should be kept free from water which will freeze and restrict fuel flow.

5. The ignition system should be kept in good condition.

6. Assuming that the above items have been given normal attention, the engine should start promptly, even in extremely cold weather, by following the simple procedure described on page 14 for models equipped with conventional transmissions or page 17 for models equipped with Hydra-Matic transmissions. In abnormally cold weather the engine should be run slightly above idling speed for a few minutes to warm up the oil before driving the truck.

NOTE: Never race the engine until the oil gauge needle will stay around the midpoint of the gauge.

7. The Chevrolet cooling system is designed to maintain efficient engine-operating temperatures and to provide adequate

and uniform cooling even under the most severe operating conditions.

A thermostat placed at the water outlet of the cylinder head restricts and controls the water circulation as the engine warms up. The thermostat is rated at 160 degrees.

Truck cooling systems incorporate a by-pass cooling feature which enables the coolant to circulate in the engine even when the thermostat stops the flow to the radiator. This helps to keep the coolant temperature in the engine uniform.

HOT WEATHER OPERATION

Hot weather does not generally present as many problems as cold weather; however, a little special attention will pay dividends in the form of economy and convenience.

1. Check the radiator regularly for sufficient coolant as the rate of evaporation is higher in hot weather.

2. Make sure the fan belt is in good condition and properly adjusted.

3. Keep the radiator area free of bugs and other things that restrict air circulation.

4. Have the water level in the battery checked at 10-day intervals or oftener, if necessary.

5. Starting a cool engine in hot weather does not present a problem and the procedure outlined under "Starting the Engine" should be followed.

A hot engine is easily flooded and may start hard. If the carburetor is flooded proceed as follows on models equipped with a manual choke:

a. Turn on ignition.

b. Pull hand throttle knob out about ½".

c. **Do not** pull choke knob out or step on accelerator.

d. Engage starter without depressing accelerator.

e. When engine starts, release starter, but do not accelerate engine.

On Hydra-Matic equipped models with automatic choke, see NOTE on page 17 for procedure to be followed in case of flooding.

TIRE INFLATION

Tire pressures should be checked at least once a week and inflated according to the following table.

Avoid underinflation to prevent pinched tubes, rim bruises, excessive heat, and irregular or rapid wear.

Avoid overinflation to prevent tire ruptures, hard riding, irregular or rapid wear and reduction of skid resistance.

Valve Caps should always be installed and tightened firmly to prevent dust and water entering and damaging valve seats. The caps also act as an air seal.

Inflation Table

6.50-16 6-Ply Rating .....front 26 pounds, rear 36 pounds
6.50-16 6-Ply Rating (tubeless) front 26 pounds, rear 36 pounds
6.50-20 6-Ply Rating .....front 40 pounds, rear 50 pounds
6.70-15 4-Ply Rating (tubeless) front 28 pounds, rear 28 pounds
6.70-15 6-Ply Rating (tubeless) front 28 pounds, rear 30 pounds
7.00-17 6-Ply Rating .....front 30 pounds, rear 45 pounds
7.00-17 8-Ply Rating .....front 30 pounds, rear 55 pounds
7.00-18 8-Ply Rating .....front 40 pounds, rear 55 pounds
7.00-20 8-Ply Rating .....front 40 pounds, rear 55 pounds
7.00-20 10-Ply Rating .....front 45 pounds, rear 70 pounds
7.50-17 8-Ply Rating .....front 30 pounds, rear 60 pounds
7.50-17 10-Ply Rating .....front 30 pounds, rear 75 pounds
7.50-20 8-Ply Rating .....front 40 pounds, rear 60 pounds
7.50-20 10-Ply Rating .....front 45 pounds, rear 75 pounds
8.25-20 10-Ply Rating .....front 40 pounds, rear 65 pounds
8.25 20 12-Ply Rating .....front 60 pounds, rear 75 pounds
9.00-20 10-Ply Rating .....rear 65 pounds

15 Inch Tires

Ply Rating	Front	Rear
6	25 pounds	40 pounds
8	25 pounds	48 pounds

CHAPTER II

DESCRIPTION, CARE AND MAINTENANCE

ENGINE

Description. The Chevrolet valve-in-head truck engines are the prime factor in Chevrolet's outstanding performance and economy. They are designed to give long trouble-free life. Chevrolet's full-pressure lubrication system provides the correct amount of lubrication to all moving parts.

Full stroke length water jackets, surrounding all cylinders, provide uniform cooling and prevent cylinder distortion which would cause undue wear and poor oil economy. The water passages in the cylinder block and cylinder head properly direct the flow of water to provide uniform cooling of the engine.

Care. The engine oil level should be checked each time fuel is purchased and oil added when necessary. (See Lubrication Section.) The engine should be inspected occasionally for oil and water leaks and the necessary repairs made. Keep the engine clean externally.

Valve Tappet Adjustment. Valve tappet adjustment should be checked when the engine is thoroughly warmed up, preferably when the truck comes in from a run or after the engine has been run at a fast idle for 30 minutes.

Check the clearance between the rocker arms and the valve stems with a feeler gauge (fig. 30). The valve clearances should be as follows:

Model	Intake	Exhaust
½, ¾ and 1 Ton	.006	.016
1½ and 2 Ton	.006	.020
L.C.F. (Hydraulic Lifters)		

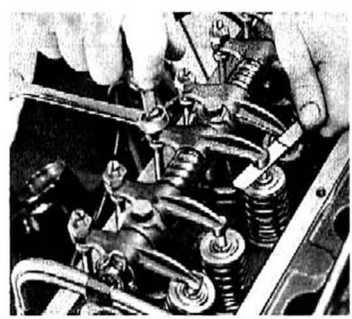

Fig. 30—Valve Tappet Adjustment —6 Cyl. Engine

Carburetor

Description—Downdraft Carburetor. The downdraft carburetor used on all 6-Cylinder Chevrolet trucks except Forward Control models, is comparatively simple in design and construction and requires very little care or attention. This carburetor has a vacuum controlled power jet and a throttle operated accelerator pump to aid in providing the desired economy and performance.

Description — Updraft Carburetor. The updraft carburetors used on the Forward Control trucks are mounted below the manifold. They are equipped with a vacuum controlled power jet and a throttle operated accelerating pump to aid in providing the desired economy and performance.

Description—Eight Cylinder Model Carburetor. The carburetor used on all eight cylinder models is of side bowl construction with fuel supply jets and passages submerged below the liquid level.

Care. Tighten the carburetor to manifold and the manifold to cylinder head stud nuts to prevent air leaks. Keep the carburetor clean externally and have it completely overhauled at regular intervals so that foreign matter in the carburetor and worn parts will not affect correct carburetion.

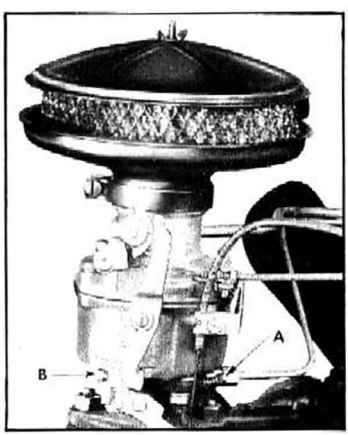

Fig. 31—Downdraft Carburetor Adjustment

Maintenance — Downdraft Carburetor. There are but two adjustments on the carburetor, one for idling mixture and the other for idling speed. These adjustments should be made together as changing the adjustment on one affects the other.

Run engine until it reaches normal operating temperature. On conventional transmission models push choke knob in all the way. Turn idling mixture adjusting screw "A" (fig. 31) in clockwise until it lightly contacts stop, then back it off 1 to 2½ turns. Let engine idle

at 450 to 500 revolutions per minute and turn idling mixture adjusting screw "A" in or out as necessary to obtain a smooth idle.

Before adjusting idling speed make sure hand throttle knob and choke knob are pushed in all the way and accelerator and throttle linkage is free so that throttle lever stop screw "B" (fig. 31) is against stop. Turn screw "B" in or out to obtain an idling speed of 450 to 500 RPM. If necessary readjust idling mixture screw "A" as explained above to obtain a smooth idle.

On Hydra-Matic models, adjust to idle speed of 400-450 RPM with shift lever in "N" position.

Maintenance—Updraft Carburetor. Warm up engine to normal operating temperature and make sure choke and throttle knobs are in all the way. Adjust the engine speed to 450 to 500 RPM on conventional transmission models and 400-450 RPM with shift lever in "N" on Hydra-Matic models by turning the throttle stop screw "B" in or out as desired (fig. 32).

Turn the idle mixture adjusting screw "A" in or out as necessary to provide a smooth idling mixture. If the carburetor is in good condition the best idling mixture should be obtained with the idling mixture screw between ½ and 1½ turns open.

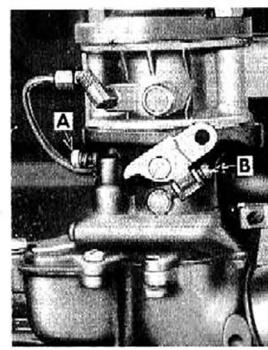

Fig. 32—Updraft Carburetor with Governor

Maintenance—Eight Cylinder Model Carburetor. Warm up engine to normal operating temperature and make sure choke and throttle knobs are in all the way. Connect tachometer and vacuum gauge and adjust idle speed to give 475 RPM. Adjust each idle mixture screw separately to give peak vacuum and RPM indications on tachometer and vacuum gauge.

CAUTION: Do not turn idle mixture screws tightly against stop or damage to needle seat will result.

If necessary, readjust engine idle to 475 RPM and readjust idle mixture.

Air Cleaner

Air cleaners on all truck models operate primarily to remove dust and dirt from the air before it is taken into the

carburetor and engine. All air cleaners used incorporate flame arresters.

Fig. 33—Servicing Standard Air Cleaner

Maintenance—Standard Cleaner. Under ordinary conditions where the truck is driven on hard surface roads, the air cleaner should be serviced every 2,000 miles. Under extremely dusty conditions, often encountered on gravel or dirt roads, the air cleaner should be serviced at more frequent intervals.

Servicing is accomplished by removing the cover wing nut, the cover and the filter element (fig. 33). Slush the filter element in cleaning solvent until all foreign matter is removed, let it drain thoroughly and then dip it in clean engine oil. Let all surplus oil drain from element, wipe all dirt from cleaner body and cover, and reassemble cleaner.

Maintenance—Heavy Duty Cleaner. The oil level in the air cleaner reservoir should be checked at regular intervals and sufficient S.A.E. 50 oil added in summer and lighter oil added in winter. Adding oil and servicing the cleaner will vary greatly, depending upon operating conditions. Experience will tell when these services should be performed. Servicing of this cleaner, an important operation, must be performed as follows:

Loosen clamp screw and remove air cleaner assembly. Remove wing nut which retains the cover and remove cover and filter element assembly (fig. 34).

Fig. 34—Servicing Heavy Duty Air Cleaner

Empty the oil out of the cleaner reservoir and clean out all accumulated dirt. Wash filter element by slushing it in cleaning solvent until all foreign matter is removed and dry thoroughly. Wash cleaner body in cleaning solvent and wipe dry. Fill the oil reservoir to the oil level

mark with S.A.E. 50 oil in summer and a lighter grade in winter.

Reassemble the filter element to the cleaner, being sure that the flange seats properly against the cleaner body. Install the cover, making sure that the gasket is clean and in good condition. Install and tighten wing nut.

Install the cleaner making sure that it fits tight and is set down securely. Tighten clamp.

Crankcase Filler and Ventilator

All models except the L.C.F. trucks are oil filled through the valve rocker arm cover. Crankcase ventilation is accomplished through a ventilator tube assembly located at the lower right side of the cylinder block on all except forward control models.

All L.C.F. trucks are oil filled through a combined oil filler and ventilator tube assembly located at the front of the intake manifold.

On Forward Control models positive ventilation is provided by a vacuum operated ventilator consisting of a vacuum pipe attached at one end to the oil filler assembly and at the other end to a spring loaded, variable opening ventilator valve at the intake manifold. Positive crankcase ventilation is also provided with the optional Jobmaster 261 engine on 2-Ton models. Have this unit cleaned by an Authorized Chevrolet Dealer at regular intervals of 10,000 miles or less, depending on operating conditions.

Fuel Pump

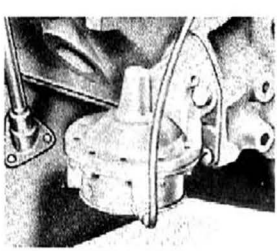

Fig. 35—Fuel Pump

Description. The fuel pump is mounted on the right side of engine (fig. 35) and is operated by an eccentric on the engine camshaft. It pumps fuel from the fuel tank and delivers it to the carburetor. A fuel strainer is located in the fuel tank at the end of the pick-up pipe (fig. 36).

Care. The fuel pump should be

checked regularly to make sure the mounting bolts, cover to body bolts, pulsator diaphragm cover screws and inlet and outlet connections are tight.

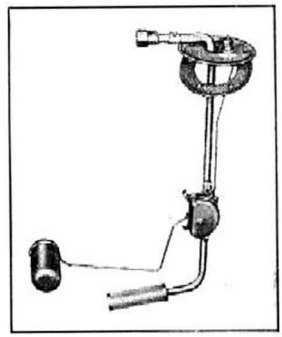

Fig. 36—Fuel Strainer

Fuel and Vacuum Pump

A combination fuel and vacuum pump is available for all truck models as optional equipment when the truck is ordered, or through the dealer's service department. This combination fuel and vacuum pump assures continuous operation of windshield wipers even under sustained pulling at full throttle.

Governor

Description. Governors are standard equipment on the 1½ and 2 ton school buses. They are also available on other models as special equipment when the truck is ordered, or through the dealer's service department.

The governor is installed between the carburetor and the intake manifold (fig. 37) and automatically governs the speed at which the engine and truck may be operated. The adjusting cap is locked with a seal which should be left in place or a new seal installed when adjusting the engine speed as this is the only protection against tampering by unauthorized persons.

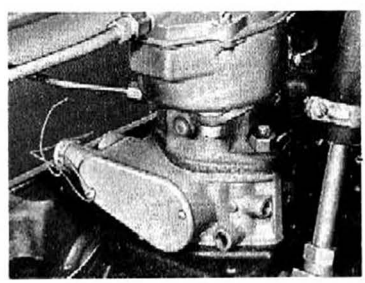

Fig. 37—Governor (in place)

Care and Maintenance. The attaching bolts should be kept tight and the governor should be kept clean externally. If the governor requires any service attention the truck should be taken to an authorized service station.

Ignition System

Description. The ignition system consists of the ignition switch to open and close the circuit, the coil to induce high voltage,

the resistor which prevents excessive primary current at low temperatures, the distributor to make and break the low tension circuit and distribute the high tension current, 14-millimeter spark plugs to provide the spark in the combustion chamber and the necessary wiring (fig. 38). The battery is the source of current for the ignition system when starting the engine or operating at idling speed. The generator furnishes the ignition current at higher speeds.

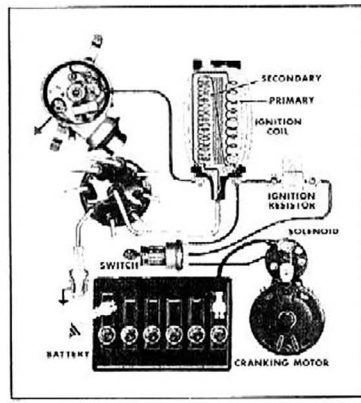

Fig. 38—Ignition Circuit

The distributor mounting provides a means of properly setting the initial ignition timing. The spark advance for various speeds and loads is controlled automatically by governor weights and vacuum control in the distributor. The vacuum control is connected to the carburetor.

The octane selector at the rear of the distributor mounting on six cylinder engines provides a means of advancing or retarding the ignition timing for the grade of fuel being used.

Care. The battery and generating system must be kept in good operating condition. All wiring connections in the ignition circuit should be kept tight and free from dirt and corrosion. Keep the high tension wires tight and free from grease.

Maintenance—

Distributor Points. Correct distributor point gap is very important. The distributor points are cleaned and adjusted as part of a good engine tune-up. If their condition is questioned, release the distributor cap clamps, remove cap and lift off rotor. Separate the points and inspect them for being pitted or badly burned. Clean the points with a breaker point file. If the points do not clean up with a few strokes of the file they should be replaced.

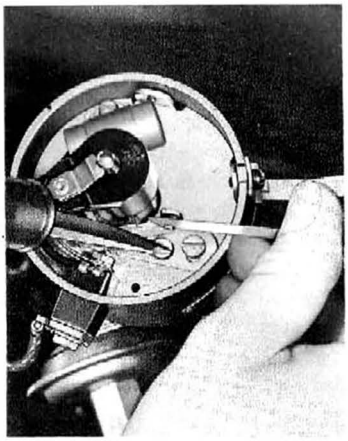

Fig. 39—Adjusting Distributor Points

Point Adjustment. Crank the engine or place transmission in high gear and rock the truck forward enough to place the movable point cam follower on the peak of cam and check the point opening, using a feeler gauge. Correct adjustment on all Chevrolet truck engines is .019″ with new points or .016″ with used points. If necessary to adjust the points, loosen the stationary point lock screw and turn the eccentric screw as necessary (fig. 39). Tighten lock screw and recheck point opening. Install rotor, place cap on distributor and turn it until it drops into locking position. Clamp the cap in position.

Point Replacement. In case the points require replacement, loosen the inside terminal nut at the movable point spring and lift the point out. Remove the stationary point lock screw and remove point and arm. Place the new stationary point and arm in position and install the lock screw. Place the movable point on its shaft and position the spring on the terminal behind lock clip and tighten nut securely. Adjust new points to .019″ and assemble distributor as explained above.

Reassemble the distributor cap and spark plug wires. Make sure that all terminals of the primary wire at the ignition coil and distributor are clean and tight.

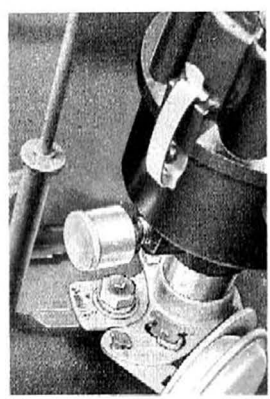

Fig. 40—Octane Selector—6 Cyl. Engine

Ignition Timing (6-Cyl. Engine). Set the octane selector at "0" on the scale (fig. 40), and attach a Neon Timing Light to No. 1 spark plug. Start the engine and run it at idling speed. Loosen distributor clamp and rotate the distributor body clock-

wise or counterclockwise until the steel ball in the flywheel lines up with the pointer on the flywheel housing. Tighten the distributor clamp screw.

Octane Selector. When changing to a grade of fuel with a higher or lower octane rating it may be advisable to advance or retard the spark slightly. Advance the spark to take advantage of higher octane fuel and retard it to prevent excessive detonation with lower octane rated fuels. Note the position of the octane selector scale (fig. 40), loosen the clamp bolt and move the distributor assembly toward advance or retard as desired and tighten the clamp bolt securely. By adjusting the spark in this manner it can be readjusted to the original setting when desired without special ignition timing equipment.

Ignition Timing—V-8 Engine. Attach a timing light to the No. 1 spark plug and spark plug wire, using an extension to make contact, and to a good ground. Disconnect vacuum advance, start engine and run at 1,000 R.P.M. with light aimed at top left of harmonic balancer. Loosen distributor clamp and rotate distributor body until the mark on the harmonic balancer lines up with the 8° BUDC mark on the timing tab welded to the front cover. This is 4 marks toward the center of the vehicle from the "O" mark.

Tighten distributor clamp screw, remove timing light, connect vacuum advance and reset engine idle.

Spark Plugs. Clean the spark plugs thoroughly, using an abrasive type cleaner. If the porcelains are badly glazed or blistered, the spark plugs should be replaced. All spark plugs must be of the same make and number or heat range.

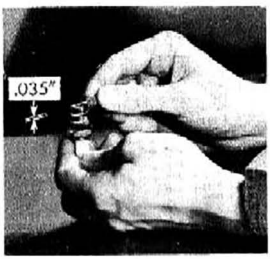

Fig. 41—Setting Spark Plug Gap

Adjust the spark gaps to .035", using a round feeler gauge (fig. 41).

CAUTION: In adjusting the spark plug gap never bend the center electrode which extends through the porcelain center; always make adjustment by bending the side electrode.

Install the spark plugs in the engine, using new gaskets.

If a tension wrench is used when installing the plugs, the proper tension is 20 to 25 foot pounds maximum. If a tension

wrench is not available, screw each plug in "finger tight" and then with a wrench tighten each plug ½ to ¾ turn beyond this.

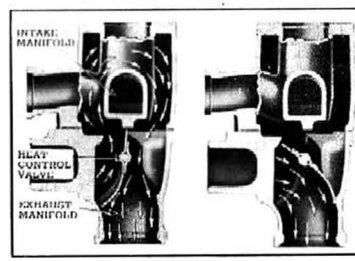

Fig. 42—Manifold Heat Valve—6 Cyl. Engine

Manifold Heat Control Valve. The manifold heat control valve on 6-cylinder engines is located on the inside of the exhaust manifold and is operated by the thermostatic spring, the center of which is attached to a slot in the valve shaft and the outer end bears against a stop pin on the manifold.

When the engine is cold the valve is in the "heat-on" position as shown in the left half of Figure 42, and the hot exhaust gases are directed against the center of the intake manifold. As the engine warms up, the thermostatic spring moves the valve to the "heat-off" position as shown in the right half of Figure 42 and directs the exhaust gases away from the center of the intake manifold.

This thermostatic control results in maintaining the proper temperature of the incoming gases under all operating conditions.

The tension of the thermostatic spring is very important. When it is too tight the heat will not be turned off the intake heat riser as the engine warms up, with the result that the incoming gases will be expanded several times greater in volume than in normal operation and it will be impossible to get a full charge of gas and air into the cylinders

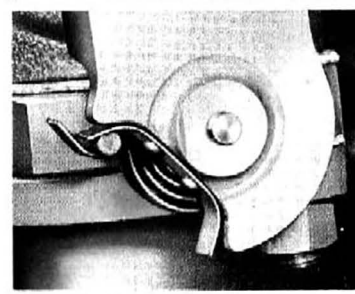
Fig. 43—Manifold Heat Valve Thermostatic Control—V-8 Engine

The manifold heat control valve on V-8 engines is located in the right manifold exhaust pipe flange (fig. 43). In the "heat on" position, back pressure forces the hot exhaust gases from the right exhaust manifold, through the intake manifold, and bottom flange of the carburetor, to the left manifold.

Engine Tune-Up

In order to enjoy the performance and economy which Chevrolet built into the truck engine it must be kept properly tuned. Normally this service should be performed every 5,000 miles. A thorough engine tune-up requires the use of special equipment not generally in the hands of truck owners. For this reason it is advisable to have this service performed by a Chevrolet dealer. However for the benefit of those owners who perform many of their maintenance repair operations we will outline the operations which should be given attention when tuning an engine.

Compression. Compression tests should be made before performing tune-up operations to determine the necessity for internal repairs—an engine with poor or uneven compression cannot be successfully tuned.

Spark Plugs. Remove, clean and adjust (page 32).

Battery. Check state of charge by testing specific gravity (page 56).

Battery Cables. Clean and tighten cable terminals.

Distributor. Clean and adjust distributor points. Inspect cap and rotor (page 30).

Ignition Timing. Check and adjust ignition timing (page 31).

Air Cleaner. Clean air cleaner (page 26).

Manifolds. Tighten manifold bolts to guard against intake and exhaust leaks.

Valve Clearance. Check and adjust valve lash to proper clearance (page 24).

Carburetor. Adjust idling speed and mixture (page 25).

Cooling System. Tighten all hose connections. Check fan belt adjustment and the cooling system for coolant leaks.

Road Test. After the engine is tuned the truck should be road tested for performance. During this test the octane selector should be adjusted for the grade of fuel being used. For best performance and economy the octane selector should be set to produce a slight "ping" upon acceleration at wide open throttle.

COOLING SYSTEM

Description. The cooling system consists of the radiator, fan, water pump, thermostat, water passages in cylinder block and cylinder head, and the necessary connections and fittings. The function of the cooling system is to keep the engine at the most efficient operating temperature under all driving conditions.

The thermostat, installed at the cylinder head outlet, restricts the flow of coolant to the radiator until a predetermined temperature is reached. During this restriction, a water by-pass in the cylinder block permits pump circulation through the engine. As the coolant warms up, the thermostat opens to permit circulation through the radiator.

Care. The cooling system must be kept in good condition if it is to properly cool the engine under all operating conditions. The radiator cap should be removed and the coolant level checked frequently. If the coolant level is low, water or anti-freeze should be added. All models are equipped with a pressure type radiator cap.

NOTE: The volume of solution in a Chevrolet cooling system expands about one quart when its temperature is changed from 32° to 160°; therefore, the cooling system should be left from one pint to one quart low if filled cold, especially when anti-freeze is used, to prevent loss of solution through the radiator overflow pipe.

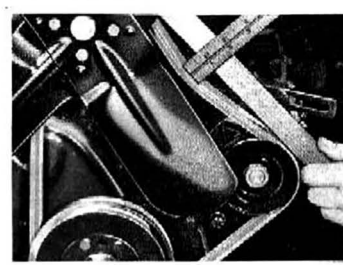

Fig. 44—Fan Belt Adjustment

The fan belt tension should be checked occasionally and, if necessary, adjusted to provide $\frac{7}{16}$"-$\frac{1}{2}$" deflection. The up or down movement from the normal position should be measured at a point midway between fan and generator pulleys (fig. 44).

The system should be thoroughly checked for leaks. Tighten screw type hose clamps occasionally.

Twice a year the radiator, cylinder block, and, where applicable, the Hydra-Matic transmission oil cooler should be completely drained. Using a water hose the cooling system should then be thoroughly flushed until the water runs clear.

Then close the drain cock; replace drain plugs and refill system with coolant.

NOTE: For complete draining, the drain cock at left front side of radiator should be opened, the drain plug at rear left side of 6-cylinder block, or at each side of the V-8 block should be removed and the plug in the Hydra-Matic transmission oil cooler inlet elbow at the front of the oil pan should be removed.

The front of the radiator core should be checked occasionally for bugs, leaves, etc., which would restrict air circulation. These can be flushed out from the back side of radiator with an ordinary water hose and city water pressure.

Maintenance—

Flushing. Scale and deposits in the cooling system which will not flush out can generally be removed by using a good cooling system cleaning compound. When using a cleaning compound in the cooling system it is advisable to follow the instructions furnished with the particular brand of compound.

If cooling system cleaning compound will not thoroughly clean the system it is advisable to reverse-flush the system.

Thermostat. A faulty thermostat may cause abnormally high or abnormally low engine temperature. If the condition of the thermostat is questioned it can be removed and tested as follows:

1. Open radiator drain cock and drain out about half the coolant, which will bring the coolant level below the thermostat; close drain cock.
2. Loosen upper hose clamps and remove hose.
3. Remove the two cap screws that attach the water outlet to the thermostat housing. Remove water outlet, gasket and thermostat.
4. Heat a container of water to a temperature 25° above the temperature stamped on the thermostat and place thermostat in the water and see if it opens fully.
5. Place thermostat in water 10° below the temperature stamped on thermostat and see if thermostat fully closes.
6. If the thermostat does not fully open on test in Item 4 or fully close on test in Item 5, it should be replaced.
7. Place thermostat in housing, install water outlet using a new gasket, install attaching screws and tighten them evenly and securely.
8. Inspect the upper hose and if necessary replace it. Install the hose and tighten hose clamps securely.
9. Fill cooling system and check it for leaks.

Anti-Freezing Solutions

In selecting an anti-freezing solution for winter operation the local conditions and the type of service should be considered. The following information is given to assist the truck owner in selecting the anti-freezing solution best suited to meet his own individual driving conditions.

Alcohol. Denatured alcohol and methanol are used extensively for anti-freezing solutions. The various types of alcohol anti-freeze afford protection against freezing and have the advantage of wide distribution and low first cost.

There are, however, two important disadvantages. Alcohol is lost, especially on warm days and on hard driving, and, unless the solution in the radiator is tested periodically and sufficient alcohol added to replace the loss, the engine or radiator, or both, are likely to be damaged by subsequent freezing. The vehicle finish may be softened and damaged by contact with alcohol solutions or vapors. Alcohol accidentally spilled on the finish should be flushed off immediately with a large quantity of cold water without wiping or rubbing.

GM METHANOL PROTECTION TABLE

Cooling System Capacity in Quarts	Quarts of GM Methanol Required for Anti-Freeze Protection at Temperatures shown below					
	3	4	5	6	7	8
16	13°	3°	−8°	−21°	−36°	
17	15°	6°	−4°	−16°	−29°	
18	16°	8°	−1°	−12°	−25°	
19	16°	9°	2°	−8°	−21°	−32°

See Page 92 for cooling system capacity.

A hot water heater adds about one quart to standard system capacity.

Other alcohol and methanol anti-freeze should be used in accordance with instructions issued by the anti-freeze manufacturer.

Ethylene Glycol. Ethylene glycol is, in first cost, more expensive than alcohol. Ethylene glycol anti-freezing solutions have the distinct advantage of possessing a somewhat higher boiling point than alcohol anti-freezing solutions and, consequently,

may be operated at a higher temperature, resulting in a more effective performance of the heater.

"GM Ethylene Glycol" is especially treated and compounded for use in the cooling system. Other ethylene glycol preparations are available, but only those containing suitable corrosion inhibitors and compounded for use in automotive cooling systems should be used.

GM ETHYLENE GLYCOL PROTECTION TABLE

Cooling System Capacity in Quarts	Quarts of GM Ethylene Glycol Required for Anti-Freeze Protection at Temperatures shown below							
	3	4	5	6	7	8	9	10
16	17°	10°	2°	−8°	−19°	−34°	−52°	
17	18°	12°	5°	−4°	−14°	−27°	−42°	
18	19°	14°	7°	0°	−10°	−21°	−34°	−50°
19	20°	15°	9°	2°	−7°	−16°	−28°	−42°

See Page 92 for cooling system capacity.

A hot water heater adds about one quart to standard system capacity.

Other ethylene glycol anti-freezes should be diluted in accordance with the instructions issued by the anti-freeze manufacturer.

Glycerine. Radiator glycerine, which is chemically treated to avoid corrosion in accordance with the formula approved by the Glycerine Producers' Association, is satisfactory for use in the cooling system.

Servicing the Cooling System. Before installing anti-freezing solution, the cooling system should be inspected and serviced for winter operation. The system should be thoroughly cleaned and all loose scale and iron rust removed.

Cylinder head bolts should be tightened to avoid the possibility of anti-freezing solutions leaking into the engine or exhaust gas blowing into the cooling system. Anti-freeze or water mixed with engine oil may form sludge, which will interfere with lubrication and, in some cases, may form varnish-like deposits which will cause gumming and sticking of the moving parts.

NOTE: Tightening cylinder head bolts may decrease valve clearance. Check and adjust valves if necessary (See Valve Adjustment).

It may be advisable to install new radiator and heater hose, especially when ethylene glycol or glycerine anti-freezing solutions are used. Ethylene glycol and glycerine have a tendency to shrink rubber that previously has been swollen by the absorption of water, and leaks may develop.

The water pump seal must be leak tight, not only to avoid loss of liquid, but to prevent air from being drawn into the cooling system. Aeration of the cooling liquid causes foaming and promotes oxidation which may result in serious corrosion.

After the anti-freezing solution has been installed, the entire system, including the hose connections, cylinder head gasket and pump, should be inspected regularly to insure that no leaks have developed.

The use of additional rust preventives, or inhibitors, is not recommended with "GM Anti-Freeze," "GM Ethylene Glycol," or with other anti-freeze preparations that have been chemically treated or compounded for use in automotive cooling systems.

Fig. 45—Anti-Freeze Tester

Testing. Some devices, used for testing anti-freezing solutions, will indicate the correct freezing point only when the test is made at a specific temperature. Other testers, provided with thermometers and tables, indicate the freezing points corresponding to readings made at various temperatures (fig. 45). Disregarding the temperature of the solution, when tested, may cause an error as large as 30° F.

Some testing devices are made to test only one kind of anti-freezing solution. Others have several scales and may be used for the corresponding kinds of anti-freeze.

The freezing point of a solution containing both alcohol and ethylene glycol cannot be determined accurately by means of a hydrometer.

CLUTCH

Description. The clutch, which provides a means of disconnecting the engine from the transmission while shifting gears, is of the single plate dry disc type. It consists of a pressure plate, cover, disc with facings, diaphragm type spring, throwout bearing, throwout fork and small correlated parts.

Care. The Chevrolet clutch requires very little care or attention; however, proper use of the clutch will contribute materially to the carefree service it will render.

Never drive with the foot resting on the clutch pedal as this causes constant wear on the clutch throwout bearing and may cause slight clutch slippage which will cause premature failure of the parts.

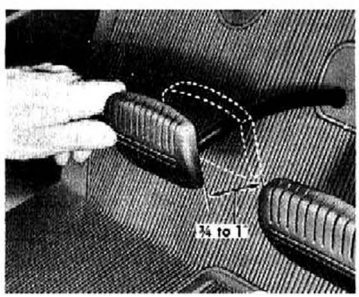

Fig. 46—Clutch Pedal Free Travel

The clutch pedal free travel should be checked at regular intervals by pushing the clutch pedal down with the fingers to determine the distance it moves before the throwout bearing engages the clutch diaphragm spring. This free travel should be ¾" to 1" (fig. 46). If adjustment is necessary, follow instructions below.

Maintenance—

Clutch Pedal Adjustment. Push the clutch pedal down with the fingers and note the amount of pedal free travel. If this free travel is more than 1" or less than ¾" adjustment should be made.

Loosen the lock nut "A" (fig. 47) on clutch release rod and back off the adjusting nut "B" to increase the pedal free travel, or tighten the adjusting nut "B" to decrease the pedal free travel. When correct travel is obtained, tighten the lock nut "A" and recheck the pedal free travel.

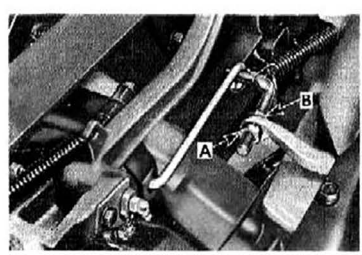

Fig. 47—Clutch Pedal Travel Adjustment

TRANSMISSION

Description (3-Speed Transmission). The sturdy synchro-mesh transmission with steering column gear shift control used as standard equipment on the ½ and ¾ ton models provides three forward speeds and reverse. It is of helical gear type providing unusually quiet operation in all gears.

The gears are carburized and shot peened for additional strength and long life. The countergear is mounted on needle bearings. The clutch gear is supported by a heavy duty ball bearing at the front end of the transmission case. The front end of the mainshaft is supported by two sets of needle pilot bearings in the hollow end of the clutch gear and the rear end is carried by a ball bearing mounted in the rear of the transmission case.

Description (Heavy-Duty 3-Speed Transmission). A heavy-duty 3-speed transmission, which incorporates greater gear reductions and more rugged construction than the standard 3-speed transmission, is available as optional equipment on ½ and ¾ ton truck models; also on 1 ton truck models where heavy duty applications do not require a 4-speed transmission. This transmission features wider gears with greater contact area, heavier mainshaft support bearings, larger double row roller countershaft bearings, and gear ratios better suited to truck operation.

Description (4-speed Transmission). This sturdy synchro-mesh transmission has increased durability and has synchro-mesh action into second, third and fourth speeds using helical gears, affording quieter operation and longer life.

The gears are drop forged steel, heat treated for strength and long life. The clutch gear is supported in the case on a ball bearing and the mainshaft is piloted at the front on roller bearings in the clutch gear and supported in the case at the rear by a large ball bearing. The countershaft is mounted at the front in a roller bearing and at the rear in a large ball bearing.

Care and Maintenance. Chevrolet 3 and 4-speed transmissions require very little care or maintenance. The lubricant level should be checked at regular intervals and lubricant added as necessary. See instructions in the Lubrication Section for further information on the maintenance of your transmission.

Description (Hydra-Matic Transmission). An automatic transmission is available as optional equipment on ½, ¾ and 1 ton models. This transmission provides greater operating convenience, particularly in continuous stop-and-go operation, and greater versatility for the vehicle in meeting all driving conditions by virtue of the range of gear ratios included.

Two separate options are available, one for ½ ton models, and another for ¾ and 1 ton models. Each option has a separate set of ratios appropriate for the rated gross vehicle weight of the models in which it is used.

The transmission consists of a fluid coupling, which replaces the conventional clutch, combined with a hydraulically controlled automatic transmission having four-speeds forward and one reverse. Gear changing is accomplished automatically by the transmission in accordance with speed and load demands. See Driving with Hydra-Matic, pages 18-20.

Care and Maintenance. To maintain efficient operation of the Hydra-Matic Transmission, the fluid level should be checked every 1,000 miles and the fluid changed every 25,000 miles. Also an adjustment of the bands should be performed by your Chevrolet Dealer at the first 1500 mile interval.

Propeller Shaft and Universal Joints

Description: The ½ ton and the 104″ wheelbase Forward Control models use a tubular propeller shaft in a Hotchkiss drive system. The universal joints are needle bearing type with a single lubrication fitting to provide lubrication to all trunnion bearings through the drilled trunnion.

The ¾ ton models use a single propeller shaft Hotchkiss type drive system similar to ½ ton models when equipped with standard 3-speed or Hydra-Matic transmission and two propeller shafts and three universal joints when equipped with other transmissions.

The 125″ and 137″ wheelbase Forward Control models use two propeller shafts and three universal joints both as standard equipment and in combination with transmission options.

The 160⅝″ wheelbase L.C.F. and the 2 ton 172″, 194″ and 220″ wheelbase models use three propeller shafts and four universal joints. All other models have two propeller shafts and three universal joints.

All models with two propeller shafts have a bearing sup-

port located near the rear end of the front propeller shaft. Models with three propeller shafts have a second bearing support located near the rear end of the intermediate propeller shaft.

All bearing supports are permanently lubricated at assembly and require no further lubrication.

Care. When the universal joints are lubricated regularly as instructed in this manual, they will require very little other care or maintenance. The universal joint "U" bolt nuts should be checked occasionally to make sure they are tight.

REAR AXLE

Description (½-Ton). The ½ ton rear axle is of the semi-floating hypoid gear Hotchkiss drive type. The rear universal joint rear yoke is splined and locked to the pinion shaft. The hypoid drive pinion is mounted on pre-loaded taper roller bearings. The hypoid design ring gear is bolted to the differential case which is mounted on pre-loaded barrel roller bearings. These units together with the two differential side and pinion gears are mounted in a differential carrier containing lubrication channels for the pinion bearings. The axle shafts are splined to the differential side gears. The outer ends of the axle shafts support the weight of the vehicle on roller bearings.

Description (¾, 1, 1½ and 2 Ton). These models all use a sturdy full floating rear axle having straddle mounted pinion, a four pinion differential and hypoid ring gear and pinion. An adjustable thrust pad is placed back of the ring gear in line with the pinion to avoid any possibility of distortion when starting under heavy loads. The differential is mounted in heavy duty barrel type roller bearings. The bearing caps are piloted to the carrier by dowels to provide additional rigidity.

Description (2-Speed Axle). A planetary-reduction type 2-speed axle is optional on 1½ and 2 ton trucks. Torque is transmitted to the differential case through eight teeth on four planetary pinions to guarantee long life in severe service. The primary gears are of hypoid type with large tooth contact areas and great torque capacity. The drive pinion is straddle mounted. Axle shafts are equal in length for maximum durability. A distinctive feature is that only the drive pinion and ring gears

operate to produce the high range reduction, the planet and sun gears being locked to revolve with the ring gear.

In low-range operation the primary (hypoid) reduction is multiplied by a planetary system reduction ratio of approximately 1.36:1 for the final drive.

The secondary reduction occurs only when the sun gear is held stationary, the four planets then being driven in an orbit around the sun gear by internal teeth in the large case or "pot" which is bolted to the ring gear.

Planet journals are integral with the planet support and differential case. The orbit speed of the planets is conveyed to the rear wheels through the differential case, differential pinions, differential side gears and axle shafts.

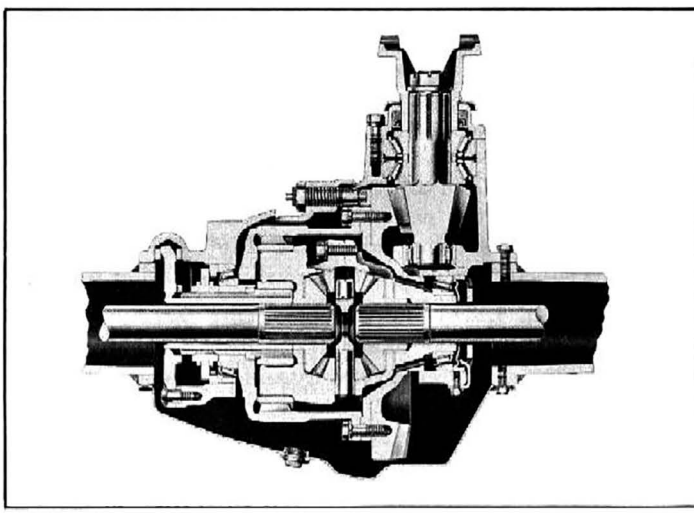

Fig. 48—Two-Speed Axle

Control of the sleeved sun gear is accomplished through lateral movement of a coaxial "shifter sleeve" splined over the sun sleeve. Left hand movement of the shifter collar and sleeve produces sun gear stoppage when dove tail teeth in an anchor ring attached to the housing engage similar teeth on the approaching face of the shifter sleeve.

Right hand movement of the shifter collar and sleeve by the vacuum control mechanism results in release from the anchor ring. Clutching teeth on the opposite face of the shifter

sleeve then mesh with dove tail teeth projecting from the planet case and ring gear assembly. Thus engaged, the sun gear must turn at the speed of the ring gear, the planets are locked in place, and only the reduction afforded by the primary drive gears determines mean rear wheel speed.

A positive, quick acting, two way vacuum system actuates the shift collar and sleeve. The hand control is located on the gear shift lever permitting simultaneous transmission and axle shifts so that full advantage may be taken of all forward ratios. The separable ring gear and simplified oil pick up and distribution are other favorable features.

Care. The rear axles used on Chevrolet trucks require very little care or attention. The lubricant level should be checked at each chassis lubrication and the differential carrier and inspection cover bolts should be kept tight.

The axle flange to hub bolts on ¾ and 1 ton trucks should be kept properly tightened. If these bolts are found loose and grease has worked out between hub and axle flange, new axle shaft gaskets should be installed.

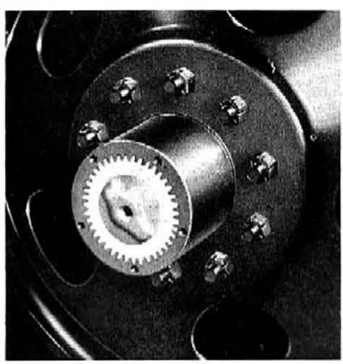

Fig. 49—Shaft to Hub Adjustment

On all 1½ and 2 ton trucks the axle shaft is spline attached to the wheel hub (fig. 49). External splines on the outer diameter of the shaft flange mesh with internal teeth in the hub. The shaft is retained in the hub by a hub cap. Should leakage occur simply remove hub cap, clean mating faces, install new gasket, replace hub cap and tighten hub cap retaining bolts securely.

Rear Wheels and Bearings

Description. All models are equipped with demountable steel disc wheels. They are held securely on the axle flange or hub flange with special bolts and nuts. All models except the half ton have the wheel hub mounted on the outer end of axle housing with two large barrel type roller bearings. An adjusting nut which screws onto the end of axle housing provides a

means of adjusting the bearings. The ½ ton semi-floating axle has the wheel bolted directly to the axle flange. The bearing is in the outer end of the axle housing and rides on a special race on the axle shaft just back of the axle flange.

Care. Keep the wheel to hub or axle flange bolt nuts securely tightened (fig. 50). In case the hub flange or wheel disc should become coated with oil or grease the wheel should be removed and all grease removed with cleaning solvent. Reinstall wheel and tighten bolts securely.

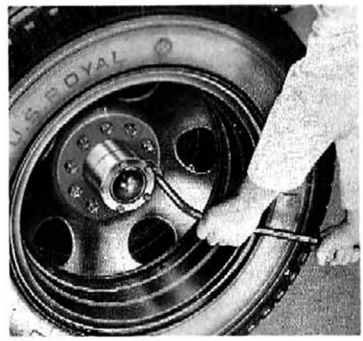

Fig. 50—Tightening Wheel Nuts

FRONT AXLE

Description. All Chevrolet trucks use what is known as a reverse Elliott type "I" beam axle. The drop forged steel "I" beam has the spring seats forged integral with the "I" beam.

Floating bushings are used between the kingpin and knuckle on the ½ ton models. Other models have the bushings pressed into the steering knuckles. The steering arms bolt to the knuckles.

Care. The front axle and its connections should be checked regularly for wear or looseness, especially for loose spring to axle "U" bolts, loose steering tie rod and drag link joints and for bent tie rod, drag link or steering arms.

Alignment. To provide easy steering, normal tire life and road stability and to prevent such troubles as shimmy, wander, tramp and tendency to lead to right or left, it is necessary to maintain correct front end alignment.

Since considerable expensive special equipment is required to properly check and adjust all the factors of front end alignment, it is advisable to take the truck to a Chevrolet dealer for this service when the front end alignment requires attention.

Front Wheels and Bearings

Description—All Chevrolet trucks are equipped with demountable steel disc front wheels. The wheels are attached to the

hub with special bolts and nuts. The hubs on the L.C.F. and 2 ton heavy duty models are mounted on the spindle with tapered roller bearings. The hubs on all other models are mounted on ball bearings.

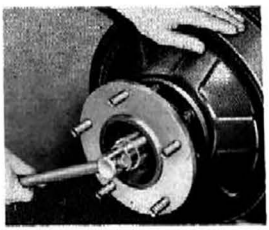

Fig. 51—Adjusting Front Wheel Bearings

Care. Keep the wheel to hub mounting bolt nuts tight and the wheel bearings properly adjusted as instructed below.

Wheel Bearing Adjustment. 1. Jack up front end of vehicle and remove wheel and tire assembly. Remove hub cap and dust cap or the plate from end of hub. Remove cotter pin from end of spindle.

2. Tighten spindle nut to 33 ft. lbs. torque while rotating hub.

3. On models with hubs mounted on ball bearings (all except L.C.F. and 2 ton heavy duty models), back off spindle nut until alignment with nearest hole in spindle is obtained, then install cotter pin. On L.C.F. and 2 ton heavy duty models using tapered roller bearings, back off spindle nut ⅙ turn minimum and install cotter pin if aligned with hole in spindle. If alignment with hole in spindle is not obtained, back off nut slightly until the nearest castellation in the nut lines up with a hole in the spindle.

4. Spin the drum to make sure that it rolls freely. Properly lock the cotter pin by spreading the end and bending it around. Install the hub plate or dust cap and hub cap. Replace wheel and tire assembly and remove jack.

STEERING GEAR

Description. The modern, heavy-duty recirculating ball type steering gear used on Chevrolet trucks is designed for easy steering and road stability. The steering gear reduction is as follows:

L.C.F. and Forward Control models	27.76 to 1
1½-Ton and 2-Ton models	23.6 to 1
All other models	21.3 to 1

Care. Check the steering gear to frame bolts regularly to make sure they are tight. Keep the pitman arm to pitman shaft nut tight. Keep the housing side and end covers tight to prevent grease leak and steering looseness. Add lubricant when necessary.

Steering Gear Adjustment. Steering gear adjustment is a very important operation and requires the use of a special checking scale; therefore, it is suggested that this service be performed by a Chevrolet dealer.

BRAKE SYSTEM

Description. The self-energizing type braking system used on all Chevrolet trucks combines hydraulically operated service brakes with mechanically operated parking brakes.

The hydraulic service brakes provide brake action at all four wheels, while the mechanical parking brakes operate on the rear wheels of ½ and ¾ ton truck models. The 1, 1½ and 2 ton models are equipped with a propeller shaft brake.

The service brake system consists of the brake pedal, main cylinder, brake lines to all wheels, wheel cylinders, shoes with linings and brake drums. The parking brake on ½ and ¾ ton models with standard transmission consists of the brake lever, pull rods, cables and the toggle at the wheels which actuates the brake shoes.

The parking brake on 1 ton models and others with 3-speed heavy duty, 4-speed, or automatic transmission consists of the brake lever, bell cranks, pull rod, brake drum attached to the transmission, and an external brake band.

Parking brake on 1½ and 2 ton models consists of the brake lever, bell cranks, pull rod, brake drum attached to the transmission drive flange and internal and external brake shoes.

The hydraulic system must be kept full of fluid at all times in order to function properly. The main cylinder includes a reservoir for a reserve supply of fluid. This automatically keeps the system full of fluid as long as there is a reserve supply in the reservoir. Should the reservoir become empty or the hydraulic system be opened at any point, air will enter the system and affect the efficiency of the brakes. When this occurs the hydraulic system must be bled. See "Bleeding Hydraulic System."

Care. The Chevrolet braking system requires very little care; however, the system should be checked occasionally for indications of fluid leak. If leaks are found the necessary repairs should be made at once.

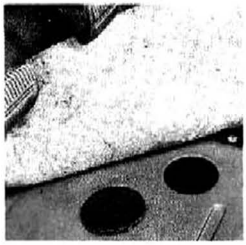

Fig. 52—Hydraulic Brake Main Cylinder Location

The main cylinder inspection plug in the left side of floor board should be removed and the top of main cylinder cleaned carefully (fig. 52). The filler cap should be removed and if the fluid is low in the reservoir, it should be filled to a point about ½" from the top of reservoir with G. M. Super No. 11 Hydraulic Brake fluid. Check the filler cap to see that the vent holes are open. Install filler cap and inspection plug.

Bleeding Hydraulic System

Only G. M. Hydraulic Brake Fluid Super No. 11 should be used when bleeding brakes.

The hydraulic brake system must be bled whenever a pipe line has been disconnected, when a leak has allowed air to enter the system or at any time the system has been opened. For satisfactory brake operation the system must be completely free of all air.

Bleeding should be accomplished by one of two methods, pressure or manual. Bleeding should be done on the longest line first. On all except the 1½ and 2 ton models, the proper sequence is left rear, left front, right rear and right front. On the 1½ and 2 ton, the proper sequence is Hydrovac slave cylinder, Hydrovac valve bleeder valve, left rear wheel, right rear wheel, left front wheel and right front wheel.

Pressure Bleeding (Except 1½ and 2 Ton)

1. Clean all dirt from top of main cylinder and remove filler plug.

2. Connect hose from bleeder tank to main cylinder filler plug opening and open valves at both ends of hose.

NOTE: Make sure fluid in tank is up to petcock above outlet and that tank is charged with 20 pounds air pressure.

3. Remove bleeder valve screw and screw bleeder hose into bleeder valve, placing other end of hose in a container having sufficient fluid to cover end of hose.

4. Open bleeder valve by turning ¾ turn in a counterclockwise direction and watch flow of fluid at end of bleeder hose.

5. Close bleeder valve tightly as soon as bubbles stop and fluid flows in a solid stream.

6. Remove bleeder hose and install bleeder valve screw in bleeder valve.

7. Repeat above operations at each wheel.

Pressure Bleeding (1½ and 2 Ton)

1. Back off adjustment all the way on upper shoe on both rear wheels.

2. Clean all dirt from top of main cylinder, remove filler cap from main cylinder and fill the reservoir to the top of filler plug opening.

3. Connect pressure bleeder to main cylinder and open valve in the bleeder tank line.

NOTE: The bleeder tank should be charged with 25-35 pounds air pressure and must be kept within this range during the bleeding operation. The end of the bleeder tube must be in a bleeder jar or bottle and covered with fluid while performing all bleeding operations.

4. Connect bleeder tube to hydrovac bleeder valve No. 1, Figure 59, open bleeder valve and bleed until all air bubbles disappear (approximately ½ pint of fluid). Close bleeder valve.

5. Connect bleeder tube to hydrovac bleeder valve No. 2, Figure 59, open bleeder valve and bleed until all air bubbles disappear. Close bleeder valve.

6. Connect bleeder tube to front, rear wheel cylinder on left side, open bleeder valve and bleed until all air bubbles disappear (approximately ½ pint of fluid). Close bleeder valve.

7. Connect bleeder tube to front, rear wheel cylinder on right side, open bleeder valve and bleed until all air bubbles disappear. Close bleeder valve.

8. Connect bleeder tube to left front wheel cylinder, open bleeder valve and bleed until all air bubbles disappear. Close bleeder valve.

9. Connect bleeder tube to right front wheel cylinder, open bleeder valve and bleed until all air bubbles disappear. Close bleeder valve.

10. Adjust upper shoe on each rear wheel with pressure tank still connected. Push down hard on the brake pedal several times to centralize the shoes.

11. Disconnect pressure tank and readjust all brake shoes.

12. Apply approximately 75 lbs. pressure on the brake pedal and check the pedal clearance from the metal toe board to the forward edge of the pedal pad. This clearance should be a minimum of 5 inches. If reserve is less than 5 inches, re-bleed hydrovac and rear brakes in the sequence outlined above.

Manual Bleeding

1. Clean all dirt from top of main cylinder and remove filler plug.

2. Install adapter and automatic filler J-713.

3. On all models except 1½ and 2 ton, remove bleeder valve screw and screw bleeder tube into bleeder valve. On 1½ and 2 ton models, connect bleeder tube to hydrovac bleeder valve No. 1, Figure 59. Place end of tube in a container having sufficient fluid to cover end of tube.

4. Open bleeder valve approximately ¾ of a turn, depress the brake pedal a full stroke and allow it to return slowly making sure the end of the bleeder tube is under the surface of the liquid in the container. Continue operating the pedal, refilling the jar at the master cylinder when necessary, until liquid containing no air bubbles emerges from the bleeder tube. Close bleeder valve.

5. On all models except 1½ and 2 ton follow bleeding operations as outlined in Steps 4 through 7 under Pressure Bleeding (Except 1½ and 2 Ton). On 1½ and 2 ton models follow bleeding operations as outlined in Steps 5 through 12 under Pressure Bleeding (1½ and 2 Ton), using the automatic filler in lieu of the pressure tank.

Maintenance—

Brake Adjustment (½, ¾ and 1 ton, front and rear)
(1½ and 2 ton, front).

1. Raise truck until wheels rotate freely.

2. On ½, ¾, and 1 ton models only, disconnect parking brake cables from parking brake cross shaft outer lever (see

Step 2 of "Parking Brake Adjustment," page 52). This precaution should be taken to eliminate possibility of brake shoes dragging in drum due to misadjustment of parking brake cables.

3. Remove adjusting hole covers from flange plate on all four wheels. Expand brake shoes by turning adjusting screw until a light drag is felt on the brake drum (fig. 53).

NOTE: Moving outer end of tool toward center of wheel expands shoes.

Fig. 53—Adjusting Front Brakes

4. On ½ ton models turn the adjusting screw 7 notches in opposite direction on all four wheels. On all remaining models turn adjusting screw in opposite direction just enough to eliminate drag.

5. Replace adjusting hole covers.

6. On ½, ¾ and 1 ton models, after adjustment of foot brakes, set parking brake foot pedal in the fully released position, connect parking brake cables, and adjust parking brake (see "Parking Brake Adjustment," below.

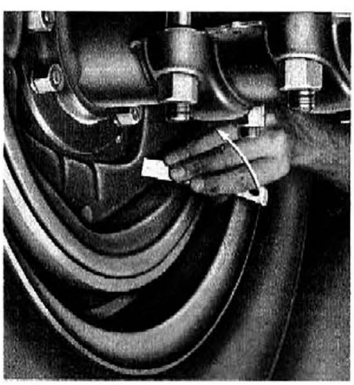

Fig. 54—Adjusting 1½ and 2 Ton Rear Brakes

7. Lower truck to floor and test brakes.

Brake Adjustment (1½ and 2 ton rear).

1. Jack rear wheels clear of floor and remove adjusting hole covers from flange plate (two at each wheel).

2. Turn rear adjusting screw (fig. 54) until a moderate dragging contact is felt

on the brake drum and then back off 3 notches.

NOTE: Moving outer end of adjusting tool toward center of wheel expands shoe.

3. Turn front adjusting screw until a light dragging contact is felt on the brake drum and then back off 3 notches.

4. Install adjusting hole covers.

5. Repeat above operations on the other rear wheel and lower rear of truck to floor.

Parking Brake Adjustment (Rear Wheel Type). The parking brake adjustment should be checked after each service brake adjustment.

1. Set parking brake lever in fully released position and check clearance between rear of idler lever and end of slot in guide. If necessary, tighten nuts on forward cable at idler lever to obtain approximately ¼" clearance.

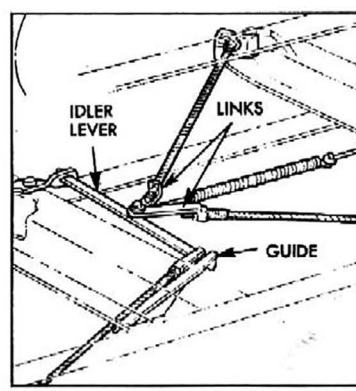

Fig. 55—Parking Brake Adjustment—½ and ¾ Ton

2. Pull hand brake lever back four notches from full released position. Loosen cable nuts at rear of idler lever links and pull cables out of conduits by hand as far as possible. Tighten nuts at front of links, then tighten rear nuts.

3. Pull back hand lever until a heavy drag is felt at one wheel. Check other wheel for drag and if any difference is noted, loosen the tight wheel until equal drag is obtained.

4. Pull back hand lever a total of nine notches. Brakes should lock so neither wheel can be turned by hand. If more than nine notches are required to lock brakes, check service brake adjustment.

Parking Brake Adjustment (Band Type)

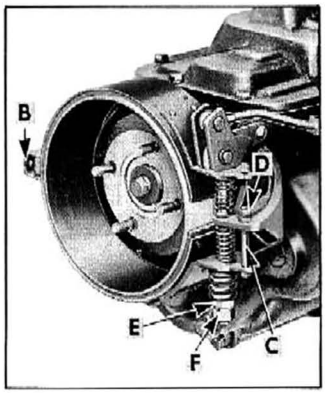

Fig. 56—Propellor Shaft Brake—1 Ton

1. Set hand brake lever in fully released position, then turn up anchor screw "B" (fig. 56) until there is .010"-.015" clearance between lining and drum.

2. Draw up adjusting bolt "C" until there is .020" clearance between drum and lower end of band. Tighten lock nut "D."

3. Turn up adjusting nut "E" until there is .020" clearance between drum and upper end of band. Tighten lock nut "F."

Parking Brake Adjustment (Shoe Type)

1. Set hand brake lever in the fully released notch of the ratchet sector.

2. Loosen lock nut "D" and draw up adjusting bolt "A" (fig. 57) to secure clearance between outer shoe facing and brake drum of .010"-.015" measured at a point directly above bolt "A." Then hold bolt and tighten lock nut securely.

3. Loosen lock nut "C" and draw up nut "B" to secure .010"-.015" clearance between inner shoe facing and brake drum. Then hold nut "B" and tighten lock nut "C" securely.

4. Recheck both facing-to-drum clearances.

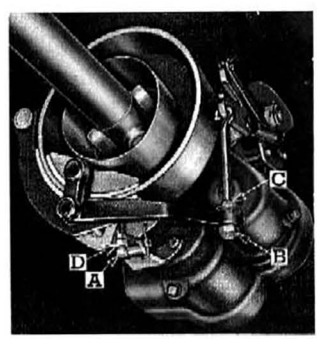

Fig. 57—Propellor Shaft Brake—1½ and 2 Ton

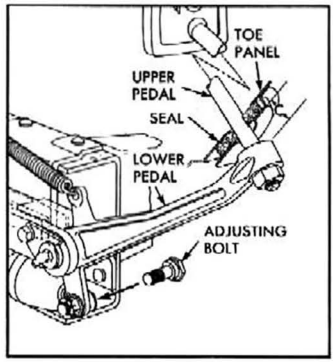

Fig. 58—Brake Pedal Clearance Adjustment

Brake Pedal Clearance

Loosen nut on eccentric adjusting bolt (fig. 58) and rotate bolt in direction required to obtain correct clearance "C" between upper corner of lower pedal and seal. Tighten nut and recheck clearance.

Clearance "C" should be 1¾" on L.C.F. models and $1\frac{1}{16}$" on other models except Forward Control.

Hydrovac Power Brakes

Description. The Hydrovac is standard equipment on the 2-ton and 1½-ton special models and is also available as optional equipment on all except Forward Control models.

The Hydrovac (fig. 59) consists of three operating units built into one assembly; namely, the control valve assembly, the vacuum power cylinder and the brake hydraulic cylinder.

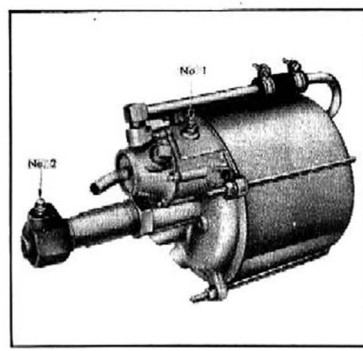

Fig. 59—Hydrovac

With this system the engine vacuum is used to greatly increase the hydraulic pressure to the brake wheel cylinders. This provides unusual braking efficiency with comparatively light pedal pressure.

Care. Lubricate the vacuum cylinder according to instructions in the Lubrication Section.

The vacuum connections between the engine and the hydrovac should be checked for damage and the connections tightened occasionally. The Hydrovac air cleaner should be removed, disassembled, cleaned and oiled at least twice a year and more frequently when driving on dusty roads.

SPRINGS AND SHACKLES

Front Springs and Shackles

Description. All Chevrolet trucks use leaf type front springs. All models except the Low-Cab-Forward and Forward Control have a threaded bushing and pin type shackle at the front and a plain bushing and bolt at the rear hanger. The L.C.F. and Forward Control models have the shackle at the rear and the fixed hanger at the front.

Care. The spring to "I" beam U-bolts should be checked occasionally to make sure they are tight. The shackles and hanger bolts should be checked for proper tightness. The shackles and hanger bushings should be lubricated as instructed in the Lubrication Section.

Rear Springs and Shackles

Description. All models have leaf type rear springs with the shackle at the rear end of spring. The ½-ton uses a threaded type shackle while all other models use a clevis type shackle and heavy shackle pins to attach the spring to shackle and hanger.

Some models use a two-stage type rear spring to provide better riding qualities when lightly loaded and proper support for heavy loads. Some models that are to be subjected to heavy loads are equipped with auxiliary springs which mount above the regular springs and contact brackets on the frame member when handling heavy loads.

Care. Keep the spring to axle "U" bolts and the shackle bolts properly tightened. Lubricate the shackles and hangers according to instructions in the Lubrication Section.

ELECTRICAL SYSTEM

General Description. The electrical system consists of the following units—generator, combined voltage and current regulator, starting motor, storage battery, distributor, ignition lock, ignition coil, ammeter, gasoline gauge, horn, lamps, switches, wiring and miscellaneous parts.

The ignition switch, coil, distributor and other miscellaneous parts making up the "Ignition System" were previously covered.

Battery

Description—A 12-volt storage battery is located under the

hood on the forward side of the dash panel. The batteries used in school buses are 11 plate 70 ampere hour capacity, all other models use a 9 plate 50 ampere hour capacity battery.

Care—Liquid level in the battery should be checked at least every 2,000 miles or once every two weeks. If the liquid level is found to be low, water should be added to each cell until the liquid level rises to the bottom of the vent well. **Do not overfill!** Distilled water, or water passed through a "demineralizer" should be used for this purpose in order to eliminate the possibility of harmful impurities being added to the electrolyte. **Do not add any substance to the electrolyte except water.**

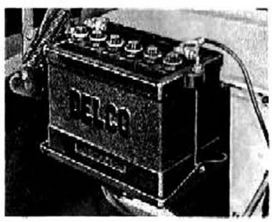

Fig. 60—Battery Mounting

CAUTION: Never allow an electric spark or flame near the battery, particularly the vent caps. Before working around the battery, ground the vehicle to reduce possibility of static spark. Batteries give off highly combustible hydrogen gas when charging and for some time after. Also, avoid getting battery acid on clothing or other fabrics.

In freezing weather the vehicle must be driven after adding water to properly mix it with the electrolyte and prevent freezing. It is also important to keep the battery in a fully charged condition in cold weather as a discharged battery will freeze at a little below the freezing point of water (32 degrees F.).

The state of charge in the battery should be checked regularly. Your Chevrolet dealer will gladly perform this service; however, if it is inconvenient to take the truck to the dealer the state of charge in the battery can be checked by using a battery hydrometer as shown in Fig. 61. The hydrometer reading of a fully charged battery will be from 1.260 to 1.280 at 80° F.

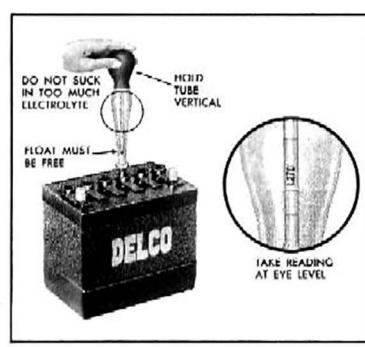

Fig. 61—Testing Battery with Hydrometer

Battery Cables

Care. The battery cable terminals must be kept clean and tight. Loose or corroded terminals cause hard starting and discharged batteries. When corrosion appears on the terminals they should be cleaned in a solution of baking soda and water or ammonia and water. After cleaning, the top of the battery should be flushed off with clear water. To reduce the tendency of the terminals to corrode, coat them with petrolatum.

Starter

Description. The starting motor on all models except L.C.F., Forward Control and Hydra-Matic equipped units is designed to incorporate a manual shift drive mechanism which assures positive engagement of the starting motor pinion with the flywheel until the engine is started.

Maintenance—

Keep the terminal nut tight on the starting switch. Check the switch mounting screws, solenoid mounting and starting motor bolts periodically to make sure they remain tight.

Generating System

Description. The generating system consists of the generator, voltage and current regulator, ammeter and necessary wiring.

The ammeter indicates whether current is being supplied to or removed from the battery.

The generator used on all Chevrolet trucks has sufficient capacity to supply all regularly used accessories and keep the battery fully charged providing the system is in good condition.

The generator output is controlled by the combined current and voltage regulator and circuit breaker. The circuit breaker points close when the generator voltage is higher than the battery voltage so that current can flow to the battery, and open when the generator voltage is lower than the battery voltage to prevent the battery from discharging through the generator.

The current regulator protects the generator by preventing the generator output from exceeding 23 to 27 amperes.

The voltage regulator protects the battery and electrical system by preventing the generator voltage from exceeding 13.8 to 14.8 volts.

Care. The connections in the entire generating circuit must be

kept tight and free from corrosion or anything that will cause high resistance in the circuit. The generator should be lubricated according to instructions in the Lubrication Section.

Maintenance—

The maintenance services on the generating system, especially the voltage and current regulator, require the use of special equipment not generally available to the vehicle owner.

NOTE: Never tamper with the voltage and current regulator unless you have special testing equipment and are trained to do this kind of work.

At periodic intervals of approximately 5000 miles, the terminals, external connections and wiring, mounting, belt and pulley should be checked. The commutator and brush inspection can be made through the openings in the commutator end frame. If the commutator is dirty or if the brushes are badly worn, it is best to have your Chevrolet dealer make the necessary test and repairs.

Lamps

Description. All Chevrolet trucks are equipped with "Sealed Beam" headlight units in which the light source, the reflector, lens and gasket are all assembled in a securely sealed unit. Figure 62 shows the component parts of the light. With this sealed unit dirt or moisture cannot enter the assembly; therefore, it retains its light reflecting ability indefinitely.

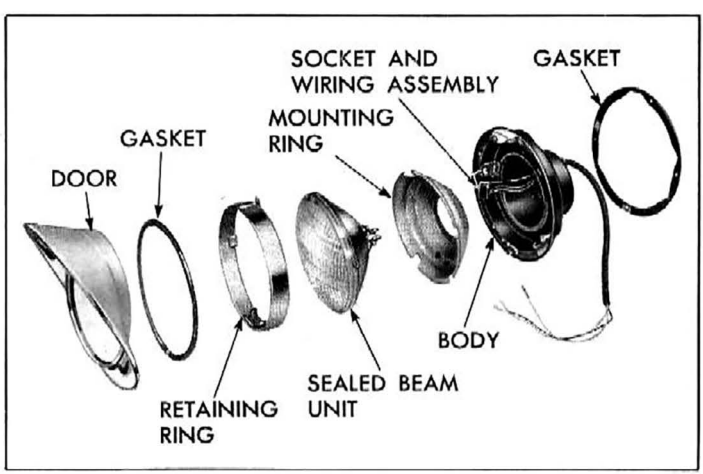

Fig. 62—Headlamp Parts

Maintenance—

Sealed beam units can be replaced as follows:

1. Remove upper and lower headlamp door retaining screws and remove door and rubber gasket assembly.

2. Unhook the spring from the retaining ring (fig. 63) and disengage retaining ring, sealed beam unit and mounting ring assembly from horizontal and vertical adjusting screws. **DO NOT disturb the adjusting screws.**

3. Pull assembly forward, disconnect connector plug from sealed beam unit (fig. 64) and remove assembly.

4. While holding retaining ring, depress mounting ring as shown in Figure 65 to release the mounting ring from the retaining ring tab at "top" of assembly. Remove mounting ring and sealed beam unit from retaining ring.

Fig. 63—Unhooking Retaining Ring Spring

Fig. 64—Disconnecting Plug

5. Place new sealed beam unit in retaining ring and position unit so that "top" inscription on front of glass locates opposite "top" inscription on rear of vertical adjusting screw tab shown in Figure 65.

6. Position mounting ring to retaining ring and sealed beam unit. with "top" inscription on mounting ring coinciding with "top" inscription on rear of vertical adjusting screw tab (fig. 65). Snap mounting ring past retaining tab.

7. Connect plug to sealed beam unit (fig. 64) and engage retaining ring adjusting screw tabs with vertical and horizontal adjusting screws.

8. Engage spring of lamp body in spring slot in retaining ring (fig. 63).

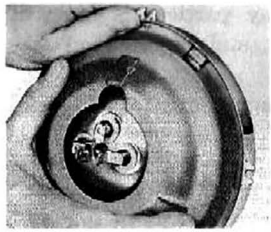

Fig. 65—Releasing Mounting Ring

9. Install headlamp door and retaining screws.

Proper aiming of these powerful lights is most important to assure sufficient illumination of the highway without blinding other motorists. When light aiming is necessary it is advisable to contact a Chevrolet dealer who has special equipment for this purpose.

The parking, stop and tail lamp bulbs may be reached by removing the rim clamp screws, rim and lens. Push the bulb in slightly and turn it counterclockwise as far as possible and pull it out of socket. Push new bulb into place and turn it clockwise to lock it. Install rim and lens.

Thermal Circuit Breakers

One circuit breaker in the lighting circuit for the headlamps and tail lamps eliminates a fuse in the circuit. When current load is too heavy, the circuit breaker opens and closes rapidly, reducing current sufficiently to protect wiring until the cause is eliminated. A second circuit breaker in the circuit for other lamps prevents short circuit or overload in that circuit from disabling the headlamp circuit. Both circuit breakers are incorporated in the light switch.

TIRES

Synthetic tires and tubes are standard equipment on all models except ½ ton, which have 6.70-15 4-ply tubeless tires. The tubeless tires are simply a tire casing of a cross section similar to tube-type tires with an impervious inner layer to retain the air inside the tire. A snap-in type valve is assembled to the rim. The service operations for tubeless tires are basically similar to established practices in tube-type tires, however tubeless tires should be inspected every 1,000 miles for puncturing objects. If such are found, they should be removed and the tire repaired.

It is important that tires be properly inflated to assure normal tire life. Inflation pressures and optional tire sizes are shown on page 22.

Tire Rotation. The rotation of truck tires will minimize tire trouble and produce longer tire life. Without rotation, accel-

erated and irregular tire wear on any particular tire will not be spread out over the entire set, and replacement frequency is boosted.

No definite tire rotation formula is applicable to all trucks because of the wide range of usage. However, certain fundamentals, mixed with experience and observation, will assist the trucker in reducing tire costs.

A rotation sequence that moves the front tires to the rear is a general recommendation. Due to different loading conditions on the wheels, new tires which are broken in on the front wheels usually produce the greatest overall tire life.

Six wheel trucks with unmatched tires may be rotated by crossing front tires and by exchanging inner and outer tire positions on the dual wheels.

The outer tire on a dual wheel will skid or drag on a turn because of the difference in the turning radii of the inner and outer tires. This results in faster wear of the outer tire. In general, the tire with the largest diameter or least wear should be at the outside of each dual wheel. In addition, certain truckers have found when trucks are operated continuously on high crown roads an increase in air pressure of from 5 to 10 pounds in the outside tire of each dual produces maximum tire life.

Maintenance—

Dismounting and Mounting Tubeless Tires.

Dismounting tubeless tires presents no problems if the correct procedures are used and the following precautions observed.

1. Remove the valve cap and valve core. Let out all the air.

2. Press one side of the tire into the rim well. Use bead loosening tool or if regular tire irons are used, take particular care not to injure or tear the sealing ribs on the bead.

CAUTION: Never use tire irons with sharp edges.

3. Using tire irons on the opposite side, remove bead, taking small "bites" around the rim.

4. Turn the tire over, and use two tire irons, one between the rim flange and the bead to pry the rim upward, the other iron to pry outward between the bead seat and bead.

When mounting a tire on a rim:

1. Coat the inside and outside of the bead with a tire

mounting compound. This will make the work much easier. Do not use oil or grease.

2. When installing the tire, make certain that the balancing mark on the tire is in line with the valve stem. Otherwise the assembly will be unbalanced.

3. Mount the first bead in the usual manner. Use tire irons only, never a hammer and carefully work bead into center of rim taking small "bites" with irons.

CAUTION: Do not use a hammer.

4. Install other bead in similar manner.

5. Install valve core.

6. Inflate the tire. Hold the tire and wheel assembly in a verticle position and bounce on floor at various points around its circumference to snap beads out against the rim flange. This will provide partial seal to start inflation. Inflate the tire with quick "shots" of air to 40 pounds to firmly seat the sealing beads. Reduce tire pressure to 26 pounds, front, or 30 pounds rear.

NOTE: If a seal cannot be effected in the foregoing manner with the rush of air it can be accomplished by applying to the circumference of the tire a tire mounting band or heavy sash cord and tightening with the use of a tire iron. On tire mounting machines, bouncing the tire assembly is not required. The tire should be lifted on the rim to force the top tire bead against the top rim flange. The weight of the tire will seat the bottom bead.

Mounting Synthetic Tubes.

1. Before installing tube in tire, clean inside of casing thoroughly.

2. Insert tube in tire and inflate until it is nearly rounded out.

3. Inspect rim for rust scale and bent flanges—clean rust scale and straighten flanges.

4. Using a brush or cloth swab, apply a solution of neutral vegetable oil soap to the inside and outside of tire beads and also to the rim side of tube. Do not allow soap solution to run down into tire.

5. When mounting tire and tube on drop center rim, follow the standard procedure. Be sure tire is centered on rim so that beads are out of rim well before inflating. Do not allow tire to hang loosely on wheel while inflating.

6. Center valve and pull it firmly against the rim. Hold in this position and inflate until beads are firmly seated on rim against flanges.

7. Completely deflate tire by removing valve core.

8. Reinflate tire to recommended pressure.

(Caution: When tube and flap are not properly lubricated and mounted, they will be stretched thin in the tire bead and rim region. This will cause premature failure.)

½ Ton Tire Changing. The drop center wheels used on ½ ton models have been so universally used on cars and light trucks for so many years that it can be assumed that all motorists are familiar with the procedure for changing tires; however, the special information pertaining to "synthetic tubes" above should be carefully followed.

¾ Ton Tire Changing—Demounting.

1. Completely deflate tire by removing valve core.

2. Support wheel disc (retaining ring side up) on three or four wood blocks (2" x 4" block 3" or 4" long) to keep tire off the floor.

3. Loosen the tire bead from its seat in the rim by driving the flat end of the tire iron between the bead and the rim. Hold the iron down on the side wall to avoid cutting the bead, and make sure the iron is driven in until it strikes the rim. Apply downward pressure on the tire iron to force the bead away from the retaining ring. Continue around the tire until it is loosened all the way around and the retaining ring can be moved from its support on the gutter diameter and into the gutter well.

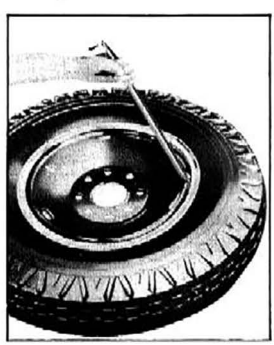

Fig. 66—¾ Ton Tire Removal

4. Insert curved end of tire iron in the square notch in the retaining ring and pry out and up while holding the ring down into the gutter at the opposite side (fig. 66). Continue this operation until the cutaway portion of the retaining ring nearest the tire iron spans the outside diameter of the rim gutter.

5. Continue to pry the remainder of this half of the retaining ring from the gutter by moving progressively toward the other cutaway portion in the ring.

6. The remainder of the retaining ring can now be pried out of the gutter and the ring removed.

7. Turn the wheel over and place it on the blocks with the

ring side down; then force tire from wheel rim. Remove tire flap and tube from tire.

¾ Ton Tire Changing—Mounting.

1. Remove all rust scale from the rim and retainer ring.
2. Insert tube and inflate until tube is nearly rounded out.
3. Lubricate tire beads, rim side of tube and both sides of flap with a solution of neutral vegetable oil soap or RuGlyde rubber lubricant. Insert flap in tire.
4. Place the wheel (rim flange down) on small blocks.
5. Place tire on rim with the valve in line with the valve hole in the rim. Insert valve through hole, then work the tire onto the rim until the outer bead clears the rim gutter.
6. Place the retainer ring on the wheel rim and start the side of the ring opposite the square notch into the rim gutter, at "C" (fig. 67) making sure the two cutaway portions of the ring rest on the sides of the wheel at "A." Hold the first portion of the ring in the rim gutter and pry the remaining portion over the wheel rim. To pry the last portion into place, insert the tire iron in the notch "B," thus putting tension on the ring, and tap the ring with a hammer until it drops into place.

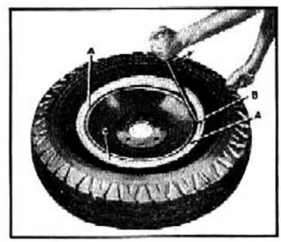

Fig. 67—¾ Ton Tire Installation

7. Inflate slowly to not more than 10 pounds pressure. See that the retainer ring is properly seated on its support in the rim gutter (tapping lightly with a hammer will help seat it firmly), and make sure that the tire bead rests evenly against the rim.

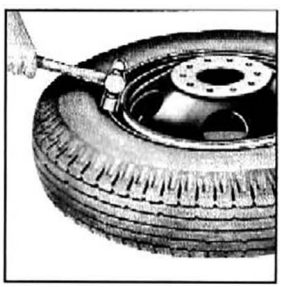
Fig. 68—Releasing Tire Clamp Ring

8. Turn the tire and wheel over with the ring down, or lean it against a wall with the ring side in,. Completely deflate tire by removing valve core and then reinflate to recommend pressure.

1, 1½ and 2 Ton Equipped with 3 Section Wheel—Removing Tire.

1. Completely deflate tire by removing the valve core.

2. Using a hammer, tap around the side ring progressively to move it in toward the center of the rim until it clears the clamp ring (fig. 68).

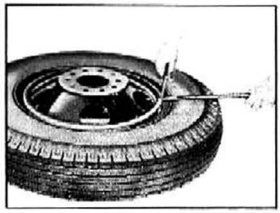

Fig. 69—Raising End of Clamp Ring

3. Starting at the split in the clamp ring, raise its end out of the rim gutter using a screwdriver and the tire iron (fig. 69). Then remove the clamp ring by prying it out of the gutter with the tire iron, moving progressively around the rim (fig. 70).

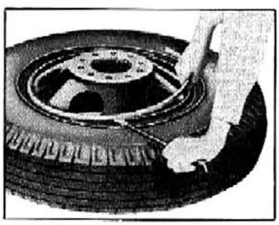

Fig. 70—Removing Tire Clamp Ring

4. Drive the curved end of the tire iron in between the side ring and the entire bead (fig. 71). Then pry down on the opposite end of tire iron to move the tire bead away from the side ring flange (fig. 72). Continue the foregoing operation progressively around the tire until the side ring is removed. In some cases it may be necessary to work around the tire a couple of times.

NOTE: The tire bead seat on the side ring is slightly tapered; this design makes removal of the ring much easier.

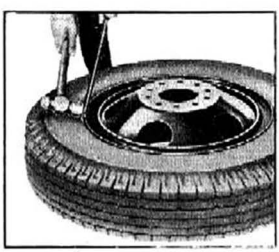

Fig. 71—Starting Side Ring Removal

5. Push the valve stem up inside the tire to prevent damage while removing the tire. The tire may be removed from the rim by following the procedure described in Item 4.

Mounting Tire.

1. Remove all rust scale from the rim, side ring and clamp ring.

2. Insert tube in tire and inflate until tube is nearly rounded out.

3. Lubricate tire beads, rim side of tube and both sides of flap with a solution of neutral vegetable oil soap or RuGlyde rubber lubricant. Insert flap in tire.

4. Place tire on rim with valve in line with the valve hole in

rim. Insert valve through hole; then work tire on to rim.

5. Place side ring into position on tire and rim; press side ring into tire onto rim using the tapered end of tire iron until the clamp ring gutter is exposed. Insert end of clamp ring in gutter and work progressively around the tire until the clamp ring is seated in the gutter (fig. 73).

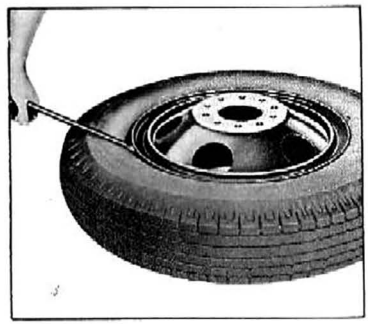

Fig. 72—Removing Side Ring

Fig. 73—Installing Clamp Ring

6. Inflate tire slowly while checking to see that side ring moves out over the clamp ring locking it into gutter. Completely deflate tire and then re-inflate to recommended pressure.

1½ Ton Special, 2 Ton and L.C.F. Equipped with 2 Section Rims.

To facilitate assembly and removal, two cutaway sections "A" (fig. 74) and an operating notch "B" are incorporated in the locking flange of the side ring.

In separating the side ring from the wheel rim of the spare or new wheel for tire installation, stand the wheel up with the operating notch in the side ring at the top. The straight end of a tire iron is inserted and driven into the operating notch (fig. 75). The tool is moved as a lever to lift the side ring away from the rim. After the side ring has passed over the rim gutter at the operating notch, work progressively around entire rim until side ring is separated from wheel rim.

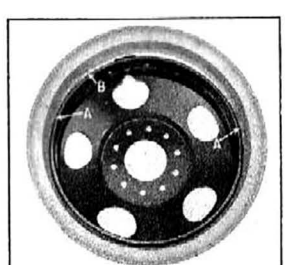

Fig. 74

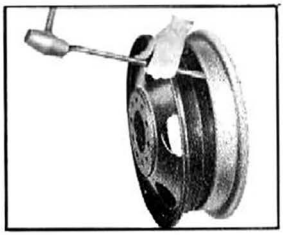

Fig. 75

Removing the Tire

1. Completely deflate tire by removing the valve core.

2. Loosen the tire bead from its seat in the side ring by driving the bead loosening end of a tire iron between the tire bead and the side ring (fig. 76). Repeat this operation progresively around the side ring prying until bead is loose.

3. Insert straight end of tire iron into operating notch located at double pimples "B" (fig. 77).

4. Push side ring down at point opposite operating notch and force tire iron handle down causing side ring to disengage from rim gutter. Repeat progressively around side ring prying ring from rim gutter until free.

5. To free opposite tire bead from wheel rim, turn tire over and repeat bead loosening operation (fig. 78).

NOTE: It is not necessary to remove side ring from tire bead if tire is to be removed for tube repair only. Simply loosen tire bead from wheel rim as in figure 78. Then turn assembly over and remove ring with tire attached as in figure 77.

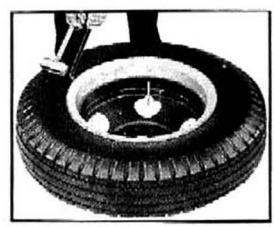

Fig. 76

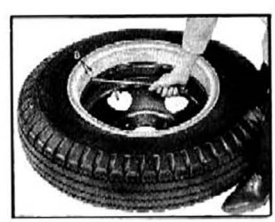

Fig. 77

Fig. 78

Mounting the Tire

1. Remove all rust scale from wheel rim and side ring.

2. Insert tube in tire and inflate until tube is nearly rounded out.

3. Lubricate tire beads, rim sides of tube and both sides of flap with a solution of neutral vegetable soap or Ru-Glyde or similar rubber lubricant. Insert flap in tire.

4. Place disc portion of wheel on floor with rim gutter up and install tire and tube assembly indexing tube valve stem with stem support in wheel rim and with valve stem pointing in desired direction.

5. Place side ring in position with operating notch "B" (fig. 79) approximately three inches from valve on either side.

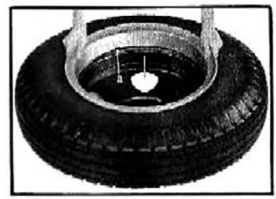

Fig. 79

6. The two cutaway sections opposite each other "A" (fig. 80) on inner diameter of side ring are positioned so as to span the rim gutter.

7. At point "C" (fig. 80), opposite valve, force ring into rim gutter as far as possible.

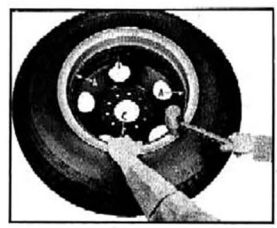

Fig. 80

8. Insert straight end of tire iron into operating notch "B" (fig. 81). Then pull in direction indicated.

9. Retain pressure with tool and strike side ring downward at a point between operating notch and cutaway section, thereby engaging side ring over rim gutter at these points.

10. Remove tool and strike blows progressively toward other cutaway section until entire toe of side ring has passed over rim gutter.

Fig. 81

11. While side ring is being applied to wheel rim, it is tight and requires force or hammer blows to complete application. When side ring is completely installed on rim, it is no longer tight and can be depressed or will yield to a light hammer blow. Precaution should be taken to see that side ring is not binding on rim and can be freely depressed (fig. 82) before inflating tire.

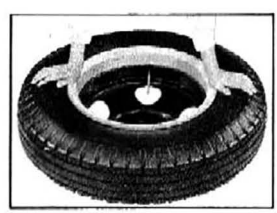

Fig. 82

12. With 2 section rims, after rim and tire are installed, inflate to approximately 75 lbs. or until the two parts center and lock. A snap can usually be heard as ring centers and moves outward onto bead seat. Deflate and reinflate to recommended pressure.

CHAPTER III

LUBRICATION

Your Chevrolet dealer is equipped to render complete lubrication service. We recommend that you take advantage of his modern equipment and trained men.

Lubricants are much cheaper than repair bills, and should be applied regularly if you are to secure a maximum of useful service from your truck. It is consequently, important that the proper grade of lubricants be used in accordance with a definite schedule.

In your selection of the proper brand of oil, it is desirable to consider the reputation of the refiner or marketer. He is responsible for the quality of his product and his reputation is the truck owner's best indication of quality.

ENGINE

Your use of the proper engine oil is one of great importance in obtaining maximum performance and satisfaction from your truck.

It is imperative that the recommended light oils be used in the engine during the "breaking-in" period.

Light oils assure a better "breaking-in" of the engine, as they assure ease of starting; prompt flow of a sufficient quantity of oil to the bearings; less friction between moving parts; less wear of moving parts, etc.

Types of Oil—In service, crankcase oils may form sludge and varnish and under some conditions corrosive acids unless protected against oxidation. To minimize the formation of these harmful products and to supply the type of oil best suited for various operating conditions, the oil industry markets several types of crankcase oils. These types have been defined by the American Petroleum Institute as follows:

"Service ML" (Comparable to former Regular Type)—Generally suitable for use in internal combustion engines operating under light and favorable service conditions.

"Service MM" (Comparable to former Premium Type)—Oil having the characteristics necessary to make it generally suitable for use in internal combustion engines operating under moderate to severe service conditions which present problems

of sludge, varnish or bearing corrosion control when crankcase oil temperatures are high.

"Service MS" and "Service DG" (Comparable to former Heavy-Duty Types)—Oils having the characteristics to make them generally suitable for use in internal combustion engines operating under unfavorable or severe types of service conditions.

For maximum engine protection under all driving conditions, oils designated "For Service MS" or "For Service DG" are recommended.

Oil Viscosity Numbers—SAE Viscosity Numbers indicate only the viscosity or body of the oil, that is, whether an oil is a light or a heavy body oil, and do not consider or include other properties or quality factors.

The lower SAE Viscosity Numbers, such as SAE 5W and SAE 10W which represent the light body oils, are recommended for use during cold weather to provide easy starting and instant lubrication. The higher SAE viscosity Numbers such as SAE 20 and SAE 20W, which represents heavier body oils, are recommended for use during warm or hot weather to provide improved oil economy and adequate lubrication under high operating temperatures.

Oils are available which are designed to combine the easy starting characteristics of the lower SAE Viscosity Number with the warm weather operating characteristics of the higher SAE Viscosity Number. These are termed "multi-viscosity oils;" SAE 5W-10W, SAE 5W-20, SAE 10W-20W, and SAE 10W-30.

The following chart will serve as a guide for the selection of the correct SAE Viscosity Number for use under different atmospheric temperature ranges, and suggests the appropriate SAE Viscosity Numbers when multi-viscosity oils are used.

If the lowest anticipated temperature during the interval in which the oil will remain in the crankcase, is:	The following SAE Viscosity Numbers are RECOMMENDED:	If the Multi-Viscosity oils are used, the following grades are RECOMMENDED:
32°F	SAE 20W or SAE 20	SAE 10W-30 or SAE 10W-20
0°F	SAE 10W	SAE 10W-20 or SAE 10W-30
Below 0°F	SAE 5W	SAE 5W-10 or SAE 5W-20

NOTE: For sustained high speed driving, when the prevailing daylight temperature is above 90°F, S.A.E. 30 may be used.

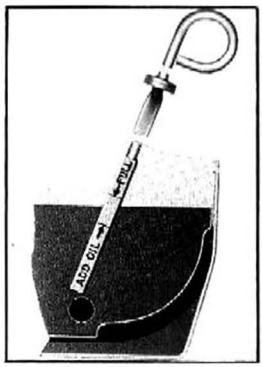

Fig. 83—Oil Gauge Rod in Pan

Maintaining Crankcase Oil Level.

The Oil Gauge Rod (fig. 83) is marked "Full" and "Add Oil." These notations have broad arrows pointing to the level lines.

The oil level should be maintained between the two lines; neither going above the "Full" line nor under the "Add Oil" line.

Check the oil level frequently and add oil when necessary.

Oil Pressure. If the oil pressure registers abnormally high after the engine is thoroughly warmed up, an inspection should be made to ascertain if the oil lines and passages are "plugged" up.

When to Change Crankcase Oil. To insure continuation of best performance, low maintenance cost and long engine life, it is necessary to change the crankcase oil whenever it becomes contaminated with harmful foreign materials. Under normal driving conditions, draining the crankcase and replacing with fresh oil every 2000-3000 miles is recommended.

Under the driving conditions described in the following paragraphs, it may become necessary to drain the crankcase oil more frequently.

Frequent long runs at high speed, or continuous driving with heavy loads, with the resultant high engine operating temperatures, may oxidize the oil and may result in the formation of sludge and varnish. While no definite drain periods can be recommended under these conditions, they should be more frequent than under normal driving conditions.

Driving over dusty roads or through dust storms introduces abrasive material into the engine. Carburetor air cleaners decrease the amount of dust that may enter the crankcase. The frequency of draining depends upon severity of dust conditions and no definite draining periods can be recommended, but should be more frequent than under normal driving conditions.

Short runs in cold weather, such as city driving, and excessive idling, do not permit thorough warming up of the

engine and water may accumulate in the crankcase from condensation of moisture produced by the burning of the fuel. Water, in the crankcase, may freeze and interfere with proper oil circulation. It also promotes rusting and may cause clogging of oil screens and passages. Under normal driving conditions this water is removed by the crankcase ventilator. But if water accumulates it should be removed by draining the crankcase as frequently as may be required.

It is always advisable to let the engine reach normal operating temperature before draining the crankcase. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold as some of the suspended foreign material will cling to the sides of the oil pan and will not drain out readily with the slower moving oil. Flushing the crankcase with oils or solutions other than a good grade of SAE 10W engine oil is not recommended.

Crankcase Dilution

Probably the most serious phase of engine oil deterioration is that of crankcase dilution, which is the thinning of the oil by fuel vapors leaking by the pistons and rings and mixing with the oil.

Leakage of fuel, or fuel vapors, into the oil pan mostly occurs during the "warming-up" period, when the fuel is not thoroughly vaporized and burned.

Automatic Control Devices to Minimize Crankcase Dilution. The Chevrolet engine is equipped with automatic devices which aid greatly in minimizing the danger of crankcase dilution.

Rapid warming up of the engine is aided by the thermostatic water temperature control, which automatically prevents circulation of the water in the cooling system until it reaches a predetermined temperature.

Thermostatic heat control on the exhaust manifold, during the warming-up period, automatically directs the hot exhaust gases against the center of the intake manifold, greatly aiding the proper vaporization of the fuel.

Sparing use of the choke reduces danger of raw, or unvaporized fuel entering the combustion chamber and leaking into the oil reservoir.

An efficient crankcase ventilating system drives off fuel vapors and aids in the evaporization of the raw fuel and water which may find its way into the oil reservoir.

Control by Truck Owner Under Abnormal Conditions. Ordinarily the above automatic control devices will minimize, or eliminate, the danger of crankcase dilution.

However, there are abnormal conditions of service when the truck owner must aid in the control of crankcase dilution.

Short runs in cold weather, such as city driving and excessive idling, do not permit the thorough warming up of the engine nor the efficient operation of automatic control devices. It is recommended that the oil be changed more often when the truck is subjected to this type of operation.

Poor mechanical condition of the engine, such as scored cylinders, poor ring fit, "sloppy" or loose pistons, faulty valves, and poor ignition will increase crankcase dilution. Keep your truck in good mechanical condition.

Poor fuels which contain portions hard to ignite and slow to burn will increase crankcase dilution. Use good fuel.

Water in Crankcase. Serious lubrication troubles may result in cold weather due to an accumulation of water in the oil pan.

A slight amount of exhaust gases pass the pistons and rings, even under the most favorable conditions, and cause the formation of water in the oil pan, in a greater or lesser degree, until the engine becomes warm. When the engine becomes thoroughly warm, the crankcase will no longer act as a condenser and all of these gases will pass out through the crankcase ventilator system.

Short runs in cold weather, such as city driving, will aggravate this condition.

Corrosion. Practically all present day engine fuel contains a small amount of sulphur which, in the state in which it is found, is harmless; but this sulphur on burning, forms certain gases, a small portion of which is likely to leak past the pistons and rings and reacting with water, when present in the crankcase, form corrosive acids.

As long as the gases and the internal walls of the crankcase are hot enough to keep water vapor from condensing, no harm will result; but when an engine is run in low temperatures, moisture will collect and unite with the gases formed by combustion; thus, acid will be formed and is likely to cause serious etching or pitting. This etching, pitting or corrosion, when using fuel containing considerable sulphur, manifests

itself in excessively rapid wear on piston pins, camshaft bearings and other moving parts of the engine, and can be traced back to the character of fuel used, or a condition of the engine, such as excessive blow-by or improper carburetor adjustment.

Oil Filter

If an oil filter is installed on your truck it is recommended that, under normal conditions, the filter cartridge be replaced and the oil changed at 3,000 mile intervals. Severe dust conditions may warrant replacing the cartridge at correspondingly lower mileages.

Water Pump

The permanently sealed ball bearing water pump does not require lubrication by the truck owner.

Starting Motor

Starting Motor end frames are equipped with oil-less bearings which do not require lubricant.

Generator

Every 1,000 miles, fill oil cup at each end to the top with a light oil or engine oil.

Distributor

On all models except L.C.F. a lubricant cup located on side of housing is filled with chassis lubricant. Turn cup down one turn every 1,000 miles and refill with chassis lubricant as necessary. On L.C.F. models a hinge cap oiler next to housing should be filled with light engine oil every 1,000 miles. Distributor cap should be removed every 5,000 miles, then remove rotor and apply a small amount of Delco Ball Bearing and Cam Lubricant on distributor cam surface. Apply ½ drop of light engine oil to breaker lever pivot.

REAR AXLE AND CONVENTIONAL TRANSMISSION

Recommended Lubricants.
Rear Axles—S.A.E. 90 "Multi-Purpose" Gear Lubricant

2-Speed Rear Axles—S.A.E. 90 "Multi-Purpose" Gear Lubricant
Conventional Transmissions—S.A.E. 90 Straight Mineral Oil Gear Lubricant, or
S.A.E. 90 "Multi-Purpose" Gear Lubricant

Caution: Straight Mineral Oil Gear Lubricants must not be used in Hypoid Rear Axles or 2-Speed Rear Axles.

The S.A.E. 90 viscosity grade is recommended for "year-around" service. However, when extremely low temperatures are encountered for protracted periods during the winter months, the S.A.E. 80 viscosity grade may be used.

"Multi-Purpose" Gear Lubricants. Gear lubricants that will give satisfactory lubrication for all types of operation have been developed. These lubricants are known as "Multi-Purpose" Gear Lubricants.

"Multi-Purpose" Gear Lubricants may be used in conventional truck transmissions, steering gears, and in universal joints requiring a fluid lubricant.

"Multi-Purpose" Gear Lubricants must be manufactured under carefully controlled conditions and the lubricant manufacturer must be responsible for the satisfactory performance of his product. His reputation is your best indication of quality.

Lubricant Additions. The lubricant level in the housing should be checked periodically and with unit at operating temperature, lubricant should be level with bottom of filler plug hole.

It is recommended that any additions required to bring up the lubricant level be made, using the same type of lubricant as in the housing.

Lubricant Changes. Seasonal changes of the lubricant are not required, however it may be necessary and advisable to drain the transmission and rear axle in trucks subject to severe service. Flushing may then be accomplished with a light flushing oil. Do not use water, steam, kerosene, gasoline, alcohol, etc.

AUTOMATIC TRANSMISSION

Every 1,000 miles the fluid level should be checked and fluid added as described below when necessary. Use only "Automatic Transmission Fluid Type A" bearing an AQ-ATF number. This fluid is available in sealed containers at all

Authorized Chevrolet Dealers and oil company service stations. A good grade of 10W engine oil may be used temporarily in emergencies but should be replaced with Automatic Transmission Fluid as soon as possible.

Every 25,000 miles the transmission fluid should be drained and refilled as described herein.

CHECKING HYDRA-MATIC FLUID. Check transmission fluid level with transmission at normal operating temperature. Otherwise, the engine and transmission must be warmed to operating temperature. Engine must be running while checking or adding fluid.

1. Set parking brake and move control lever into (N) position; then start engine. Run engine at idling speed until engine and transmission have reached normal operating temperature.

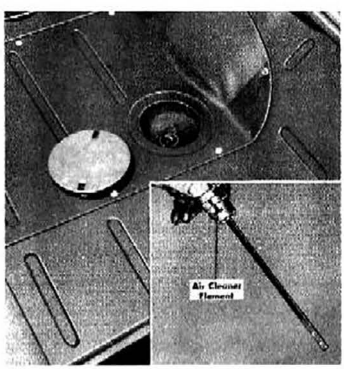

Fig. 84—Checking Transmission Fluid Level

2. Lift access hole cover plate on floor pan (fig. 84) to give access to oil breather and level indicator assembly.

3. Remove all dirt or gravel from area around indicator and transmission case. With engine still idling, remove indicator from case. Wipe clean, re-insert, and carefully withdraw again.

Exercise extreme care to prevent dirt from entering filler tube when checking fluid level. Add fluid (Step 4) only when level reaches the "L" mark (1 Qt. low) on the indicator.

4. With engine operating at normal idle, add sufficient Automatic transmission fluid to bring level to "F" (full) mark on indicator.

CAUTION: Fluid level should never be higher than "F" mark on indicator, when fluid is at operating temperature. An excessive amount of fluid will cause spinning drums to aerate fluid. Expanding fluid may then be forced out of case around indicator. Sufficient fluid may be lost to damage the transmission seriously.

5. Reinstall indicator and cover access hole with plate.

DRAINING AND REFILLING THE HYDRA-MATIC TRANSMISSION. At the 25,000 mile interval the transmission should be drained and refilled. Approximately 8½ quarts* of Hydra-Matic Fluid are required to refill transmission after torus cover and oil pan have been drained. Drain oil immediately after operation, while fluid is still warm. Do not flush transmission after draining.

1. Turn flywheel until torus cover plug is at lowest point. Remove torus cover drain plug (fig. 85) and thoroughly drain torus cover.

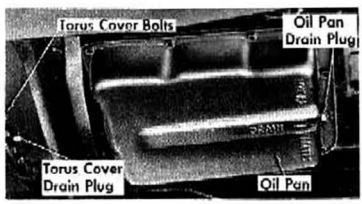

Fig. 85—Drain Plugs on Transmission Without Cooler

2. Remove oil pan drain plug (fig. 85) and thoroughly drain oil pan.

3. When drainage is completed install oil pan drain plug. Tighten drain plug to 35-45 foot-pounds torque.

4. Coat torus cover plug with sealer (Permatex No. 3) and install in torus cover. Tighten plug to 6-7 foot-pounds torque.

5. Remove oil breather and indicator assembly (see "Checking Hydra-Matic Fluid") and wipe it clean. Clean indicator cap air cleaner (fig. 84) in cleaning solvent.

6. Pour six* quarts of Automatic transmission fluid into transmission. Be sure container and spout or funnel is clean.

7. Set parking brake and position control lever in "N" position and start engine. Run engine at idling speed for 3 to 5 minutes, to fill coupling.

8. With engine idling, then add sufficient fluid (approximately 2½ quarts) to bring oil level to "L" (low) mark on indicator. Continue to run engine until normal temperature is attained; then recheck fluid level to "F" (full) mark on indicator.

* Add one additional quart if equipped with transmission oil cooler.

UNIVERSAL JOINT

CAUTION: Under no consideration should any of the soap type lubricants—such as chassis lubricants, fibrous universal joint lubricants, etc.—be used.

All universal joints are the needle bearing type equipped with lubrication fittings and should be lubricated every 1000 miles with the same type of lubricant used in the transmission.

PROPELLER SHAFT SLIP JOINTS

Propeller shaft slip joints equipped with a lubrication fitting are used on the following models:

3500, 3700 with 3-speed transmission;

3400, 3500, 3600, 3700, 3800, with Hydra-Matic transmission.

All models with 3-Speed Heavy Duty or 4-Speed transmissions.

These fittings should be lubricated every 1000 miles with chassis lubricant.

FRONT WHEEL BEARINGS

½, ¾, 1 and 1½ Ton. Front wheels are equipped with ball bearings and should be packed with a high-melting point front wheel bearing lubricant.

L.C.F. and 2 Ton. Front wheels are equipped with tapered roller bearings and should be packed with a soft smooth lubricant.

CAUTION: "Long fibre" or "Viscous" type of lubricants should not be used.

Due to the weight of the tire and wheel assembly it is recommended that they be removed from hub before lubricating bearings to prevent damage to oil seal. Then remove the front wheel hub to lubricate the bearings. The bearings should be thoroughly cleaned before repacking with lubricant. Do not pack the hub between the inner and outer bearing assemblies, or the hub cap, as this excessive lubrication results in the lubricant working out into the brake drum and linings.

In mounting the front hubs, great care must be taken not to damage seals and to properly adjust bearings, (see page 46).

REAR WHEEL BEARINGS

The rear wheel bearings receive their lubrication from the rear axle. When installing bearings which have been cleaned, repack with a smooth type grease.

CHASSIS

For chassis lubrication, consult the lubrication chart, which shows the points to be lubricated and how often the lubricant should be applied.

The term "Chassis Lubricant" as used in this manual, describes a semi-fluid lubricant designed for application by commercial pressure gun equipment. It is composed of mineral oil (usually 300 to 500 second Saybolt Universal viscosity at 100° F.) combined with approximately 8% soap, or soaps, which are insoluble in water.

Spring Shackles and Spring Bolts

The spring shackles and spring bolts are equipped with pressure gun lubrication fittings, and should be lubricated with lubricant recommended under "Chassis Lubrication."

Brake and Clutch Pedals

The brake and clutch pedals on all models are equipped with pressure gun lubrication fittings. On Forward Control the clutch and brake pedals are both lubricated from a pressure gun lubrication fitting in the end of the shaft. On the other truck models, the brake and clutch pedals have separate fittings in the ends of the shafts, or in the clutch pedal support casting. Use chassis lubricant at these points.

Hydrovac

The Hydrovac unit is equipped with a lubrication plug in the closed end of the shell approximately ½" from the bottom of the cylinder. One ounce of Bendix Vacuum Cylinder Oil or Delco shock absorber fluid should be added at 10,000 mile intervals or each six month period, especially prior to the start of cold weather.

Steering Gear Lubrication

The steering gear is filled at the factory with an all-season gear lubricant. Seasonal change of this lubricant is unnecessary and the housing should not be drained. Whenever required, additions should be made using "Multi-Purpose" or "Universal" steering gear lubricants.

Steering Column Manual Shift Mechanism

½, ¾, and 1 Ton Models with 3-Speed Transmission

This mechanism, lubricated at the factory, is well protected and should not require further lubrication.

However, should the shifting effort become noticeably greater, remove the cap on the gearshift control box and fill box with a soft smooth grease.

General Note

Low-Cab-Forward trucks are provided with an access panel in the dash panel which may be removed to service the distributor. All other engine compartment lubrication points are readily accessible after raising the hood.

½ TON TRUCK LUBRICATION

1. Front Spring Shackle (2 each side) ..... 1000 mile
2. Generator (2 oil cups) (see page 75) ..... 1000 mile
3. King Pin (2 each side) ..... 1000 mile
4. Front Wheel Bearing (see page 80) ..... 10,000 mile
5. Tie Rod (1 each side) ..... 1000 mile
6. Steering Connecting Rod (1 each end) ..... 1000 mile
7. Steering Gear (see page 81) ..... 1000 mile
8. Distributor (1 cup) (see page 75) ..... 1000 mile
9. Front Spring Bolt (1 each side) ..... 1000 mile
10. Air Cleaner (see page 26) ..... 2000 mile
11. Throttle Bell Crank ..... 1000 mile
12. Brake and Clutch Pedals (see page 81) ..... 1000 mile
13. Transmission (see pages 75-78) .....
14. Universal Joint (1 each—see page 78) ..... 1000 mile
15. Rear Spring Bolt (1 each side) ..... 1000 mile
16. Rear Axle (see page 75) .....
17. Rear Spring Shackle (2 each side) ..... 1000 mile
18. Parking Brake Cable ..... 1000 mile
19. Propeller Shaft Slip Joint—3-speed Heavy Duty and 4-speed transmission (see page 78) ..... 1000 mile

Lubricant Key for Figure 86

CL Chassis Lubricant

EO Light Engine Oil

WB Wheel Bearing Lubricant

SG Steering Gear Lubricant

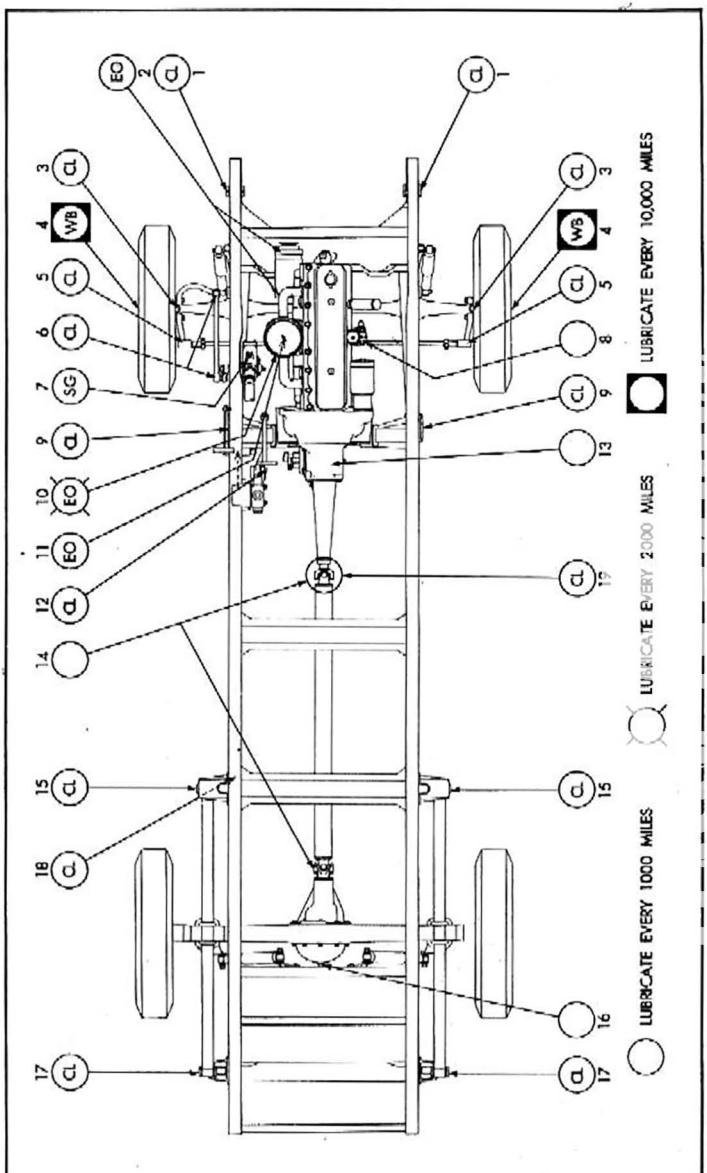

Fig. 86—½ Ton Lubrication Chart

¾ TON TRUCK LUBRICATION

1. Front Spring Shackle (2 each side) ..... 1000 mile
2. Generator (2 oil cups) (see page 75) ..... 1000 mile
3. King Pin (2 each side) ..... 1000 mile
4. Front Wheel Bearings (see page 80) ..... 10,000 mile
5. Tie Rod (1 each side) ..... 1000 mile
6. Steering Connecting Rod (1 each end) ..... 1000 mile
7. Steering Gear (see page 81) ..... 1000 mile
8. Distributor (1 cup) (see page 75) ..... 1000 mile
9. Front Spring Bolt (1 each side) ..... 1000 mile
10. Air Cleaner (see page 26) ..... 2000 mile
11. Throttle Bell Crank ..... 1000 mile
12. Brake and Clutch Pedals (see page 81) ..... 1000 mile
13. Transmission (see pages 75-78) .....
14. Universal Joint (1 each—see page 78) ..... 1000 mile
15. Rear Spring Bolt (1 each side) ..... 1000 mile
16. Rear Axle (see page 75) .....
17. Rear Spring Shackle (2 each side) ..... 1000 mile
18. Parking Brake Cable ..... 1000 mile
19. Propeller Shaft Slip Joint (all models except those equipped with Hydra-Matic transmission) . 1000 mile
20. Propeller Shaft Slip Joint (all models except those equipped with standard 3-speed or Hydra-Matic transmission ..... 1000 mile
21. Universal Joint (all models except those equipped with standard 3-speed or Hydra-Matic transmission)—(1 each—see page 78) ..... 1000 mile

Lubricant Key for Figure 87

CL Chassis Lubricant
EO Light Engine Oil
WB Wheel Bearing Lubricant
SG Steering Gear Lubricant

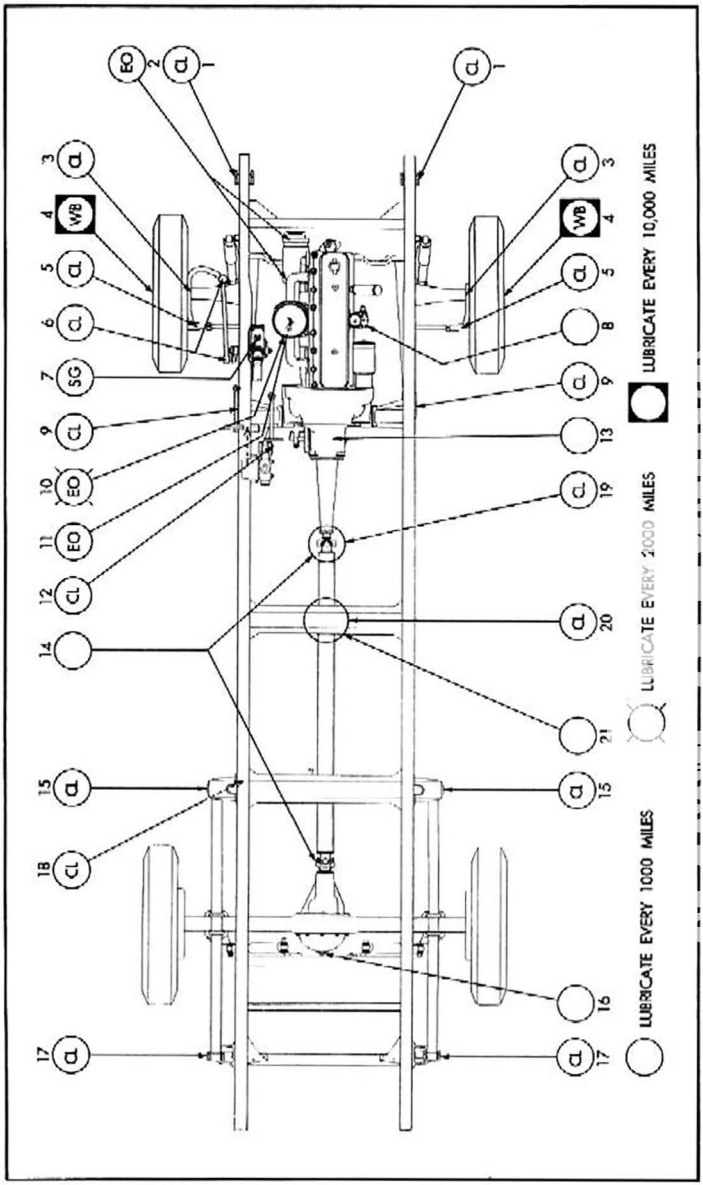

Fig. 87—¾ Ton Lubrication Chart

1 TON TRUCK LUBRICATION

1. Front Spring Shackle (2 each side) ..... 1000 mile
2. Generator (2 oil cups) (see page 75) ..... 1000 mile
3. King Pin (2 each side) ..... 1000 mile
4. Front Wheel Bearings (see page 80) ..... 10,000 mile
5. Tie Rod (1 each side) ..... 1000 mile
6. Steering Connecting Rod (1 each end) ..... 1000 mile
7. Steering Gear (see page 81) ..... 1000 mile
8. Distributor (1 cup) (see page 75) ..... 1000 mile
9. Front Spring Bolt (1 each side) ..... 1000 mile
10. Air Cleaner (see page 26) ..... 2000 mile
11. Throttle Bell Crank ..... 1000 mile
12. Brake and Clutch Pedals (see page 81) ..... 1000 mile
13. Transmission (see page 75-78) .....
14. Universal Joint (1 each) (see page 78) ..... 1000 mile
15. Rear Spring Bolt (1 each side) ..... 1000 mile
16. Rear Axle (see page 75) .....
17. Rear Spring Shackle (2 each side) ..... 1000 mile
18. Propeller Shaft Slip Joint ..... 1000 mile

Lubricant Key for Figure 88

CL Chassis Lubricant

EO Engine Oil

WB—Wheel Bearing Lubricant
SG—Steering Gear Lubricant

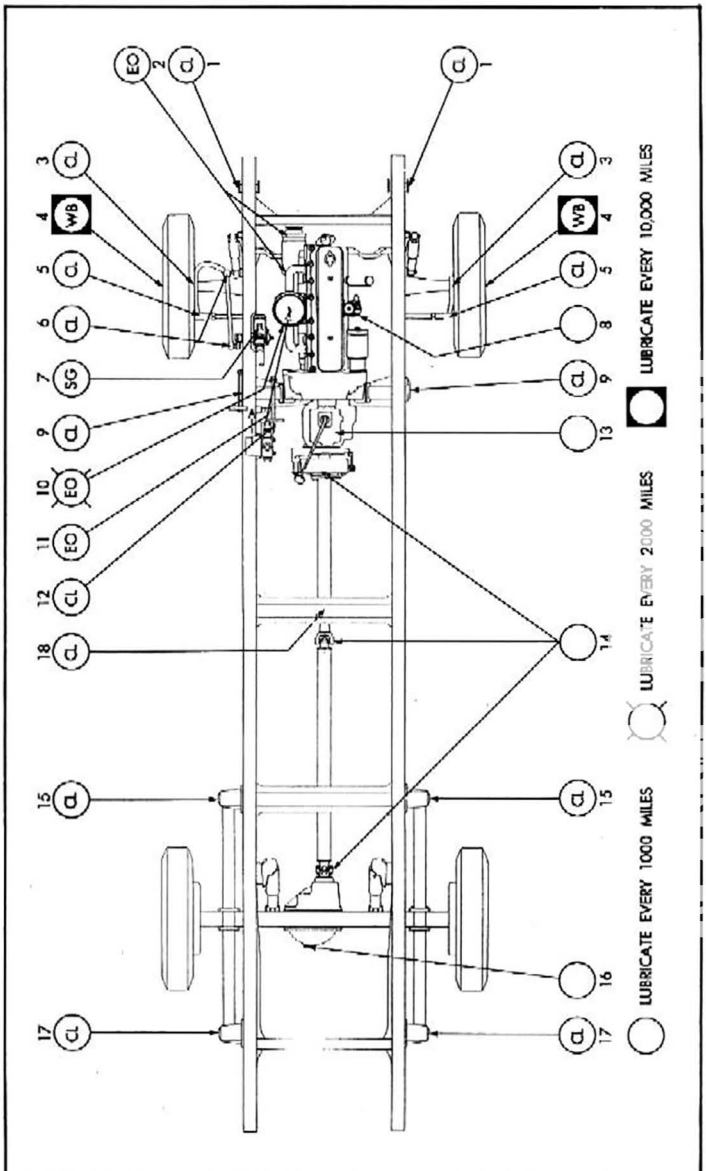

Fig. 88—1 Ton Lubrication Chart

1½ AND 2 TON TRUCK LUBRICATION

1. Front Spring Shackle (2 each side) .....1000 mile
2. Generator (2 oil cups) (see page 75) .....1000 mile
3. King Pin (2 each side) .....1000 mile
4. Front Wheel Bearings (see page 80) .....10,000 mile
5. Tie Rod (1 each side) .....1000 mile
6. Steering Connecting Rod (1 each end).....1000 mile
7. Steering Gear (see page 81) .....1000 mile
8. Distributor (1 cup) (see page 75) .....1000 mile
9. Front Spring Bolt (1 each side) .....1000 mile
10. Air Cleaner (see page 26) .....2000 mile
11. Throttle Bell Crank .....1000 mile
12. Brake and Clutch Pedals (see page 81) .....1000 mile
13. Transmission (see page 75) .....
14. Universal Joint (1 each) (see page 78) .....1000 mile
15. Rear Spring Bolt (1 each side) .....1000 mile
16. Rear Axle (see page 75) .....
17. Rear Spring Shackle (2 each side) .....1000 mile
18. Propeller Shaft Slip Joint.....1000 mile
19. Hydrovac (see page 81) .....10,000 mile
20. Parking Brake Operating Lever.....1000 mile

Lubricant Key for Figure 89

CL Chassis Lubricant
EO Engine Oil
WB—Wheel Bearing Lubricant
SG—Steering Gear Lubricant
BL—Bendix Vacuum Cylinder Oil

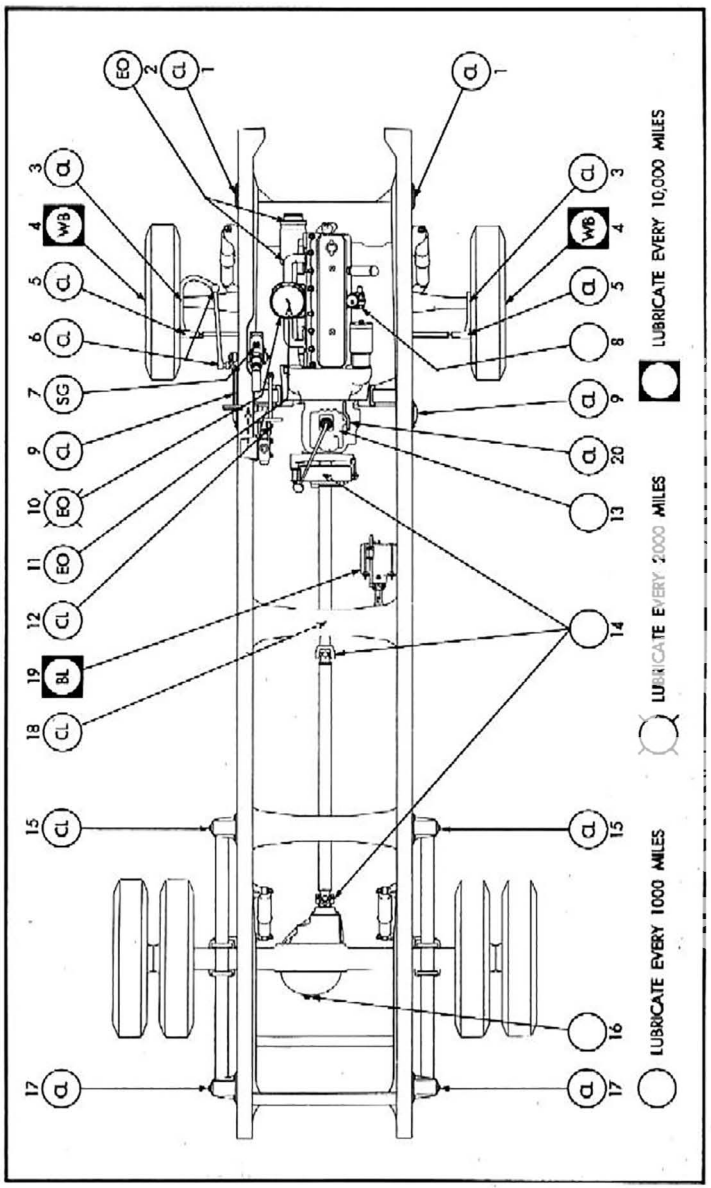

Fig. 89—1 ½ and 2 Ton Lubrication Chart

L.C.F. TRUCK LUBRICATION

1. Front Spring Shackle (2 each side) ..... 1000 mile
2. Generator (2 oil cups) (see page 75) ..... 1000 mile
3. King Pin (2 each side) ..... 1000 mile
4. Front Wheel Bearings (see page 80) ..... 10,000 mile
5. Tie Rods (1 each side) ..... 1000 mile
6. Steering Connecting Rod (1 each end) ..... 1000 mile
7. Steering Gear (see page 81) ..... 1000 mile
8. Distributor (see page 75) ..... 1000 mile
9. Front Spring Bolt (1 each side) ..... 1000 mile
10. Air Cleaner (see page 26) ..... 2000 mile
11. Throttle Bell Crank ..... 1000 mile
12. Brake and Clutch Pedals (see page 81) ..... 1000 mile
13. Transmissions (see page 75) .....
14. Universal Joint (1 each) (see page 78) ..... 1000 mile
15. Rear Spring Bolt (1 each side) ..... 1000 mile
16. Rear Axle (see page 75) .....
17. Rear Spring Shackle (2 each side) ..... 1000 mile
18. Propeller Shaft Slip Joint ..... 1000 mile
19. Hydrovac (see page 81) ..... 10,000 mile
20. Parking Brake Operating Lever ..... 1000 mile

Lubricant Key for Figure 90

CL—Chassis Lubricant
EO—Engine Oil
WB—Wheel Bearing Lubricant
SG—Steering Gear Lubricant
BL—Bendix Vacuum Cylinder Oil

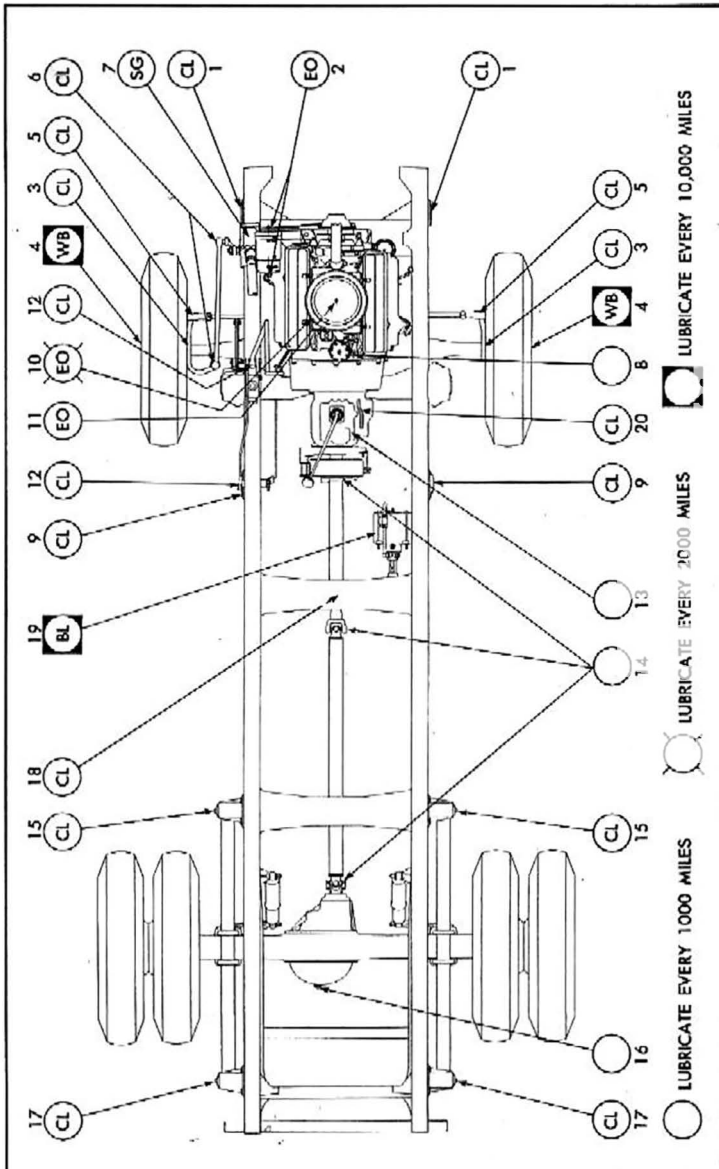

Fig. 90—L.C.F. Lubrication Chart

CHAPTER IV

TECHNICAL DATA

Vehicle Serial Number—Stamped on plate located on left body hinge pillar on all models except flat face cowl which has plate located on left hand cowl inner panel.

Engine Number—Stamped on boss on right front side of 8-cylinder block, and on right side to the rear of ignition distributor on 6-cylinder block.

UNIT CAPACITY CHART

Engine Oil	5 qt.
Transmission	
3-Speed	2 pt.
Overdrive	1 pt.
3-Speed Heavy Duty	2¾ pt.
4-Speed	6 pt.
Automatic (Total)	9 qt.
(Refill)*	8½ qt.
Gasoline Tank	
Cab Mounted Tank	17½ gal.
Inside Frame	17 gal.
Outside Frame (except School Busses)	18 gal.
All School Bus Chassis	30 gal.
Rear Axle	
½-Ton	4½ pt.
¾- and 1-Ton	6½ pt.
1½-Ton	14 pt.
2-Ton Regular	16½ pt.
2-Speed	16 pt.
Cooling System	
½, ¾ and 1-Ton	17 qt.
1½-Ton and 2-Ton	18 qt.
Brakes	1 pt.
Air Cleaner (Oil Bath)	1 qt.
Oil Filter	1 qt.

*Add 1 qt. if equipped with transmission oil cooler.

LAMP BULB CHART

Location	C.P.	Bulb No.
Headlamp	50-40 watts	Sealed Beam
Parking Lamp	3	67
Tail and Stop Lamp	4-32	1034
Instrument Cluster	2	57
Ignition Switch	1	53
Dome Lamp	15	94
Headlamp Beam Indicator	1	53

SPECIFICATIONS

Engine	Thriftmaster 235 and Loadmaster 235	Johnmaster 261	V-8
No. of Cylinders	6	6	8
Bore	$3^{9}/_{16}$"	$3^{3}/_{4}$"	$3^{3}/_{4}$"
Stroke	$3^{15}/_{16}$"	$3^{15}/_{16}$"	3"
Displacement	235.5 cu. in.	261 cu. in.	265 cu. in.
Firing Order	1-5-3-6-2-4	1-5-3-6-2-4	1-8-4-3-6-5-7-2
Compression Ratio	7.1 to 1	7.17 to 1	7.25 to 1
Horsepower	30.4 (AMA) 120 (Rated) 119 (Forward Control)	33.7 (AMA) 140 (Rated)	45 (AMA) 145 (Rated)
No. of Main Bearings	4	4	5

Transmission Ratios

	3-speed	Heavy Duty 3-speed	4-speed	Automatic ½ Ton	Automatic ¾ and 1 Ton
First (low)	2.94 to 1	3.17 to 1	7.06 to 1	3.82 to 1	4.71 to 1
Second	1.68 to 1	1.75 to 1	3.58 to 1	2.63 to 1	3.03 to 1
Third	Direct	Direct	1.71 to 1	1.45 to 1	1.56 to 1
Fourth			Direct	Direct	Direct
Reverse	2.94 to 1	3.76 to 1	6.78 to 1	4.30 to 1	6.11 to 1

Rear Axle Ratio (semi-floating type) ....½-Ton.....3.9 to 1
Overdrive..4.11 to 1

Rear Axle Ratios (Full-Floating Type)

¾-Ton .....4.57 to 1
¾-Ton Forward Control .....5.14 to 1
1-Ton .....5.14 to 1
1½-Ton (Regular) .....6.17 to 1
2-Ton .....6.17 to 1
2-Ton (R.P.O.) .....7.20 to 1
2-Speed
High .....5.83 to 1 6.40 to 1
Low .....7.95 to 1 8.72 to 1

ADJUSTMENT SPECIFICATIONS

Spark plug gap ..... .035"

Breaker point gap—All Engines ..... .019" new lever / .016" used lever

Distributor points on 6-cylinder engine to break when steel ball in flywheel is in line with pointer on flywheel housing.

Octane selector should be set for the grade of fuel being used to produce a slight "ping" on acceleration.

Carburetor idling adjustment (Forward Control)..... ½ to 1½ turns open

Carburetor idling adjustment (Conv.)..... 1 to 2½ turns open

Engine Idling Speed
With Conventional Transmission .....475 R.P.M.
With Hydra-Matic Transmission .....425 R.P.M. in neutral

Valve Clearances (Hot)

	½, ¾ and 1 Ton	1½ and 2 Ton	L.C.F.
Intake	.006	.006	(Hydraulic
Exhaust	.016	.020	Lifters)

Clutch pedal free travel ..... ¾" to 1"

Brake pedal toe-board clearance .....L.C.F. 1¾"
Others $1\frac{11}{16}$"

Brake shoe release after slight drag is felt
½-Ton (front and rear ..... 7 adj. notches
¾ and 1-Ton (front and rear) ..... Just enough to eliminate drag
1½ and 2-Ton (front) .....
1½ and 2-Ton (rear) ..... 3 adj. notches

Toe-in of front wheels
½ and ¾-Ton (Except Forward Control) ..... $\frac{1}{16}$" to $\frac{3}{16}$"
1, 1½ and 2-Ton Conv. L.C.F. and Forward Control Models..... $\frac{1}{16}$" to ¼"

LOAD CAPACITY CHART

GROSS VEHICLE WEIGHTS FOR 1955 CHEVROLET TRUCKS AND SCHOOL BUSES

VEHICLE TYPE	MODEL AND SERIES DESIGNATION		WHEEL BASE	NOMINAL RATING	GROSS VEHICLE WEIGHT	TIRES AND EQUIPMENT		
						TIRE SIZE AND PLY RATING		EQUIPMENT
						FRONT	REAR	
SEDAN DELIVERY	1508	D55	115		†4000	6.70-15—4	6.70-15—4	
					4100	6.70-15—6	6.70-15—6	
LIGHT DUTY CONVEN-TIONAL	3100 3200	H255 M255	114 123¼	½ Ton	†4000	6.70-15—4	6.70-15—4	
					4400	6.70-15—6	6.70-15—6	
					*5000	6.50-16—6	6.50-16—6	8 leaf rear spring
						15—6	15—6	
MEDIUM DUTY FORWARD CONTROL	3400 3500 3700	F255 G255 K255	104 125 137	¾ Ton	†6600	7.00-17—6	7.00-17—6	
					7000	7.00-17—6	7.00-17—8	
					7500	7.00-17—6	7.50-17—8	
					*10000	7.00-18—8	7.00-18—8 Dual	H.D. 3-spd. trans.; H.D. front & rear axle; H.D. 10 leaf front spring; H.D. 8 leaf and 5 leaf aux. rear spring
MEDIUM DUTY CONVEN-TIONAL	3600	J-255	123¼	¾ Ton	†5400	15—6	15—6	
					5400	7.00-17—6	7.00-17—8	
					5800	15—6	15—8	10 leaf two-stage rear spring
						7.00-17—6	7.00-17—6	
					*6900	7.00-17—6	7.50-17—8	H.D. 10 leaf single stage rear spring
						6.50-16—6	6.50-16—6 Dual	
	3800	L255	135	1 Ton	†6200	7.00-17—6	7.00-17—8	
					7000	7.00-17—6	7.50-17—8	H.D. 8 leaf single stage rear spring
					*8800	7.00-18—8	7.00-18—8 Dual	H.D. 8 leaf & 5 leaf aux. rear spring
HEAVY DUTY	4100 4400	N-255 P-255	130 154	1½ Ton Conventional	†10000	6.50-20—6	6.50-20—6 Dual	
					11000	6.50-20—6	7.00-20—8 Dual	
					12500	6.50-20—8	7.00-20—10 Dual	Hydrovac
					*14000	7.00-20—8	7.50-20—8 Dual	H.D. 10 leaf & 5 leaf aux. rear spring & Hydrovac

HEAVY DUTY	5100S 5400S 5700S	SS-255 ST-255 SU-255	112⅝ 136⅝ 160⅝	1½ Ton Special L. C. F.	†14000	7.50-20—8	7.50-20—8 Dual	
					*15000	7.50-20—8	8.25-20—10 Dual	
	6100S 6400S 6500S	SV-255 SW-255 SX-255	130 154 172	1½ Ton Special Conventional	†14000	7.50-20—8	7.50-20—8 Dual	
					*15000	7.50-20—8	8.25-20—10 Dual	H.D. 10 leaf front spring
	5100 5400 5700	S-255 T-255 U-255	112⅝ 136⅝ 160⅝	2 Ton L. C. F.	†14000	7.50-20—8	7.50-20—8 Dual	
					*16000	7.50-20—8	8.25-20—10 Dual	
	6100 6400 6500	V-255 W-255 X-255	130 154 172	2 Ton Conventional	†14000	7.50-20—8	7.50-20—8 Dual	
					*16000	7.50-20—8	8.25-20—10 Dual	H. D. 10 leaf front spring
	5100 5400 5700	S-255 T-255 U-255	112⅝ 136⅝ 160⅝	2 Ton L. C. F.	*18000	8.25-20—10	8.25-20—12 Dual	H. D. 9 leaf front spring; H. D. 13 leaf & 6 leaf aux. rear spring
	6100 6400 6500	V-255 W-255 X-255	130 154 172	2 Ton Conventional			9.00-20—10 Dual	Jobmaster Engine: H. D. Sgle. spd. or two-spd. rear axle; H. D. drive line; H. D. 10 leaf front spring; H. D. 13 leaf & 6 leaf aux. rear spring
SCHOOL BUS CHASSIS	4502	R-255	154	30 Pupils	†10500	6.50-20—6	6.50-20—6 Dual	
				36 Pupils	*12000	6.50-20—6	7.00-20—8 Dual	
	6702	Y-255	194	42 Pupils	†14000	7.50-20—8	7.50-20—8 Dual	
				48 Pupils	*16000	7.50-20—8	8.25-20—10 Dual	
	6802	Z-255	220	48 Pupils	†14000	7.50-20—8	7.50-20—8 Dual	
				54 Pupils	*16000	7.50-20—8	8.25-20—10 Dual	
	6702	Y-255	194	48 Pupils	*18000	8.25-20—10	8.25-20—12 Dual	Jobmaster Engine; H. D. sgle. or two-spd. rear axle; H. D. drive line; H. D. 15 leaf two-stage rear spring
	6802	Z-255	220	54 Pupils			9.00-20—10 Dual	

*—A plate is supplied with each vehicle showing chassis number and maximum Gross Vehicle Weight (GVW). The maximum GVW rating includes the truck chassis with lubricants, water and full tank or tanks of fuel, plus the weight of the cab or driver's compartment, body, and special chassis and body equipment, and payload. These GVW ratings are reduced per above table when tires and/or equipment of lesser capacity are used. Series D55 plate shown no GVW. †—Base GVW, tires shown included in base price.

Extra ply rating and/or oversize tires and equipment are available with no increase in gross vehicle weight rating.

CHAPTER V

GENERAL INFORMATION

MANUFACTURER'S WARRANTY

It is expressly agreed that there are no warranties, expressed or implied, made by either the Dealer or the Manufacturer on Chevrolet motor vehicles, chassis or parts furnished hereunder, except the Manufacturer's warranty against defective materials or workmanship as follows:

"The Manufacturer warrants each new motor vehicle, including all equipment or accessories (except tires) supplied by the Manufacturer, chassis or part manufactured by it to be free from defects in material and workmanship under normal use and service, its obligation under this warranty being limited to making good at its factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser or before such vehicle has been driven 4,000 miles, whichever event shall first occur, be returned to it with transportation charges prepaid and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on its part, and it neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of its vehicles.

"This warranty shall not apply to any vehicle which shall have been repaired or altered outside of an authorized Chevrolet Service Station in any way so as in the judgment of the Manufacturer to affect its stability and reliability, nor which has been subject to misuse, negligence or accident. The Manufacturer has reserved the right to make changes in design or add any improvements on motor vehicles and chassis at any time without incurring any obligation to install same on motor vehicles and chassis previously purchased.

TIRE AND BATTERY WARRANTIES

The tires and battery furnished with your new Chevrolet carry separate warranties and should be registered with the nearest agent of the particular manufacturer. Your Chevrolet dealer will gladly assist you in this registration.

LITHO U.S.A.

OWNER'S SERVICE POLICY

Upon delivery of your new Chevrolet truck, you received an Owner Service Policy from your Chevrolet dealer. Please read it carefully.

Under the terms of this policy you are entitled to receive, from any Chevrolet dealer in the U.S.A. or Canada, an inspection and adjustment, on a no charge basis, if the policy coupon is presented within 1500 miles of vehicle operation.

Any Chevrolet dealer in the U.S.A. or Canada is authorized to replace, without charge for material or labor, any parts found to be defective under the terms of the Chevrolet Factory Warranty.

Always keep the Owner Service Policy with the truck during the warranty period as it serves to introduce the owner to any Chevrolet dealer.

OWNER SERVICE POLICY

1. Delivery . . . The Dealer will see that the vehicle is properly prepared according to Standard Factory instructions before delivery to the owner.

2. Use of this Policy . . . This Owner Service Policy entitles the owner to receive service in accordance with the terms hereof at all authorized Chevrolet Service Stations. This Policy should be carried in the vehicle at all times.

3. Installation of Parts Furnished Under Warranty . . . Parts supplied under the manufacturer's warranty (see Owner's Manual) will be installed by any Chevrolet dealer in the United States or Canada without any charge for labor.

4. 1000-Mile Adjustment . . . The attached coupon, when signed by the authorized Chevrolet selling Dealer, entitles the owner to the inspection and adjustments listed on the back. These services are given free by any Chevrolet dealer in the United States or Canada upon surrender of the coupon.

5. Inspections . . . In order that your Chevrolet vehicle may provide maximum service and dependability, we suggest that you have it inspected every 30 days or 1000 miles by an authorized Chevrolet service station.

6. Tourist Privilege . . . Upon presentation of this Policy by the owner when touring, any authorized Chevrolet service station in the United States or Canada will perform the services as outlined in paragraphs three, four and five.

7. Change of Residence . . . In the event the owner moves to another location before the warranty period has expired, the authorized Chevrolet service station serving the new locality will fully honor this Policy, and will render any no-charge service due under paragraphs three, four and five.

PREVENTIVE MAINTENANCE

The following table will indicate some of the things which should be done at regular mileage intervals to assure your receiving the maximum in performance and economy.

Mileage	Lubricate Chassis *	Change Oil †	Clean Air Cleaner ‡	Clean Spark Plugs	Cross-Change Tires	Tune Engine	Complete Inspection By Dealer	Pack Front Wheel Bearings	Adjust Brakes
500		✪							
1000	✪						✪		
2000	✪	✪	✪						
3000	✪								
4000	✪	✪	✪						
5000	✪			✪	✪	✪	✪		✪
6000	✪	✪	✪						
7000	✪								
8000	✪	✪	✪						
9000	✪								
10000	✪	✪	✪	✪	✪	✪	✪	✪	✪

After 10000 miles, repeat above schedule starting with 1000 mile operations at 11000, 21000, 31000 miles, etc.

Change Hydra-Matic Transmission Oil every 25000 miles. For Hydra-Matic maintenance instructions, see "Transmission," in Chapter II and "Automatic Transmission" in Chapter III.

***For complete instructions, see Charts in Chapter III.**

†For complete recommendations on changing oil and [illegible] oper grade of oil to use, see Chapter III.

‡Also crankcase ventilator and hydrovac air cle[illegible] en used.

The following operations should [illegible]

Period	Check Battery	[illegible]
Weekly	✪	
Spring		
Fall		